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UNIVERSITY OF ALBERTA

THE EXPERIENCE OF PHYSICAL MATURATIONAL CHANGES IN MALE ADOLESCENTS

©

BY

DONALD PETER FLAMING

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Nursing.

Faculty of Nursing

Edmonton, Alberta
Spring, 1992

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled *The Experience of Physical Maturational Changes in Male Adolescents* submitted by Donald Peter Flaming in partial fulfillment of the requirements for the degree of Master of Nursing.

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Date: March 26, 1992

Abstract

As very little is known about the subjective and emotional experience of boys going through puberty, the following question was asked in this study: "What is the experience of the physical maturational changes in male adolescents?" Grounded theory, a qualitative method, was used in answering this question, and the Basic Social Psychological Process that emerged was *Minimizing Embarrassment*. Four stages that informants experienced were identified within this process: *Waiting for the Change, Noticing the Change, Dealing with the Change,* and *Feeling Comfortable with the Change.*

Informants developed expectations from listening to others, by looking at older males, and wondering and imagining what the changes would eventually be like for them. After developing these expectations, they compared their physical changes to other boys' bodies, and to what they thought they would, or should, look like. If informants felt that they were different from their peers, they worried about this difference and became embarrassed. Strategies such as avoiding, pretending, and joking were then used to avoid embarrassment or to deal with embarrassing situations. If the boys felt that they were "normal," they accepted the fact that they were maturing properly and no strategies to minimize embarrassment were necessary.

The major implication for nursing from this study is that if nurses are aware of the conditions that cause embarrassment and the strategies used by pubescent boys to minimize embarrassment, they might be able to give better bedside care and be more effective sexuality educators. For example, boys' efforts at saving face in clinical situations when they are embarrassed about their bodies should not be thwarted. In the role of a sexuality educators, nurses can minimize embarrassment by developing a

comfortable and non-threatening atmosphere in which pubertal issues (e.g., feelings associated with physical changes, the varying rate of maturational change) can be discussed as openly as possible.

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TABLE OF CONTENTS

CHAPTER PAGE

1. INTRODUCTION

Statement of the Problem 1

Purpose and Rationale 2

Objectives 4

2. REVIEW OF THE LITERATURE

Psychological Development 5

Cognitive Changes 8

Social Development 10

Physiological Development 12

The Effects of Pubertal Timing 14

Sex Education 17

Literature for Parents and Adolescents 18

Literature Based on Descriptive Data 20

Early Adolescent Boys' Experience of Physical Changes 21

Conclusions 22

3. METHODS

Grounded Theory 24

Theoretical Sampling 25

Data Collection 27

Data Analysis 28

Reliability and Validity 31

Ethical Considerations 33

4. FINDINGS

Core Variable: Minimizing Embarrassment 34

Stage One: Waiting for the Change 36

Stage Two: Noticing the Change 46

Stage Three: Dealing with the Change 55

Stage Four: Feeling Comfortable with the Change 64

Summary 68

5. DISCUSSION

Grounded Theory 70

Discussion of Findings 72

Implications for Nursing 86

Sexuality Education 86

- Clinical Practice 88
- Propositional Statements 89

Suggestions for Further Research 90

Summary and Conclusions 90

References 93

APPENDIX A Informed Consent 113

LIST OF TABLES

TABLE	DESCRIPTION	PAGE
1	Average ages, standard deviations, and range of onset of male pubertal changes (in years)	13
2	Characteristics of primary and secondary informants and number of interviews	27
3	The process of *Minimizing Embarrassment*	35

LIST OF FIGURES

FIGURE DESCRIPTION PAGE

1 Different responses when changes are noticed 48

2 The various changes depending on their noticeability to others and whether they cause embarrassment 58

Chapter I: INTRODUCTION

Statement of the Problem

Early adolescent boys experience dramatic physical changes: genitals and body hair begins to grow, voices deepen, muscles and body mass increase, wet dreams begin, and spontaneous erections occur. What do these boys experience emotionally as they go through these changes?

An increasing number of men have realized that they do not understand the emotional experience of being a man in our society. They have started gathering in groups to discuss this question. The main assertion of the "men's movement" is that men have kept their emotional selves under "lock and key" and, therefore, are not emotionally aware of what it means to be male. Inspired by books such as *Iron John* , written by mythopoet Robert Bly (1991), men are beginning emotional self-exploration. These books focus only on adult males, yet the time during which "manhood" begins–when male physical features first develop– may be an important time for boys to develop a sense of masculinity. This period begins in early adolescence, but very little information exists about the experience of early adolescent boys.

What early adolescent boys experience during the time when they are changing physically is exemplified in the following story related to the researcher by a colleague. The colleague was chaperoning her son's junior high school class on an overseas trip. Two of the early adolescents boys who were on the trip were approximately the same age, but only one of them had started to develop physically and looked quite mature. The flight attendant offered him wine, while the other boy, who looked much younger, was offered a puzzle. The second boy was very embarrassed because although the two boys were the same age the flight attendant thought that he was a child. Knowing what did this student experienced emotionally when he was considered to be a child instead of a young adolescent would be important in gaining a fuller understanding of what happens to boys during the early adolescent period.

For decades, writers have lamented the fact that few researchers have examined the emotional experiences of adolescents (Adams, 1983; Dornbusch, 1989; Dragastin, 1975; Harms, 1966-1967; Lerner & Foch, 1987). As Frazier and Lisonbee (1950) state: "Knowledge of the nature of adolescent physical changes is considerable; however, knowledge about the feelings of the adolescent seems less well documented." In recent years, researchers have examined how physical changes during puberty have affected the psychological and sociological processes of early adolescents, but they have mostly examined the experience of girls undergoing physical changes, and very few have examined boys' emotional responses to physical changes. As Brooks-Gunn and Reiter (1990) note: "Very little is known about the meaning of pubertal changes to boys". (p. 39). Therefore, in order to understand what early adolescent boys experience while undergoing physical changes, the following research question was asked: What is the experience of physical maturational changes in male adolescents?

Purpose and Rationale

The purpose of this study was to examine what boys experience emotionally as they go through the physical changes that occur during puberty. The rationale for the study was that, first, nurses often work with boys in clinical or in sexuality education settings. Findings from this study may contribute to a more complete understanding of what pubescent boys experience and, with this new information, nurses might be able to give better care.

Secondly, the results from this research project may be helpful in planning sexuality education materials and for assessing priorities in adolescent health care. In the past, what adults *thought* were the pressing problems of adolescents were not necessarily the problems adolescents themselves found most important (Brunswick, 1969; Feldman, Hodgson, Corber, & Quinn, 1986; Levenson, Morrow, & Pfefferbaum, 1984; Magilvy, 1987; Parcel, Nader, & Meyer, 1977).

A third rationale for this study is that the results may serve as baseline data for future projects. If the response of a "normal" early adolescent to his pubertal changes can be determined, then this data might be compared with findings from studies examining the response of early adolescent boys who are, for example, chronically ill or have a sudden onset of illness.

A final rationale is that parents might also benefit from the knowledge gained in this study. Even though they have direct experience with early adolescents, many parents may not really understand what their sons experience emotionally in the pubertal process. Some writers suggest that the primary cause of stress in parents who have early adolescents is their lack of knowledge concerning the developmental process (Cohen, Adler, Beck, & Irwin, 1986). A lack of knowledge is also the reason that parents do not speak to their children about sexuality (Reis & Seidl, 1989). If parents receive the knowledge gained in this study, either directly by reading the results themselves or indirectly through nurses who use these results in their practice, they may have a better idea of what their sons are experiencing.

Objectives

The specific objectives of this study were to:

1. Obtain descriptions from early adolescent males regarding their experience of undergoing physical changes.

2. Identify the stages and critical incidents for early adolescent males experiencing the physical changes.

Chapter 2: LITERATURE REVIEW

Researchers have often examined the psychological, cognitive, sociological, and physiological development of adolescents. Usually, generalizations about the entire period of adolescence are made from these studies (Mitchell, 1975). A growing number of researchers, however, have realized that an 18-year-old's experiences may not be the same as what a 13-year-old experiences, and they have focused on the period of early adolescence. This chapter is an examination of that research literature and other literature pertinent to this study.

Psychological Development

The landmark work regarding adolescent psychology was written by Hall (1904). He expounds a psycho-biological theory of adolescent psychology and states that the rapid growth and development in adolescence causes the intrapsychic forces of adolescents to be at "war" with each other. In other words, adolescents are in continual psychological conflict and are trying to make peace within themselves. Hall's (1904) work was seminal because he was the first writer who focused on the psychology of adolescents and saw them as an entity unto themselves.

The "storm and stress" description of adolescence became popular, and influential researchers defended the notion that adolescents experienced a psychic unbalance which lead to an upheaval of their emotions (Freud, 1937). Even more recently, writers have stated that "early adolescence is intrinsically a period of great stress, impoverished coping skills, and consequent high vulnerability" (Hamburg, 1974, p. 101).

In contrast to the "storm and stress" theory of adolescence, Bandura (1964) states that adolescents are not engaged in a struggle because they do not feel restricted, do not have conflicting values with their parents, and are not confused about what is happening to them. He blames the (mis)conception of adolescent turmoil on mass media sensationalism, generalizations made from samples of deviant adolescents, and on people who oversimplified behaviours of adolescents. For example, he acknowledges that adolescents "display idiosyncratic fashions and interest patterns" (Bandura, 1964, p. 227), but that this is a superficial sign of nonconformity and should not be construed to mean that the adolescent is experiencing psychological distress. He found that adolescents' behaviour and thinking were quite consistent with parents, which resulted in little serious conflict with parental authority.

Other writers agree with Bandura. By examining data collected by the Offer Self-Image Questionnaire, researchers conclude that adolescents are generally confident, happy, and self-satisfied (Offer, Ostrov, & Howard, 1981). The problem with the results of the "storm and stress" research, they claim, is that data are not collected directly from adolescents, rather researchers have developed theories that reflect what adults *think* adolescents are experiencing: "Adolescence...is the world's most perfect projective device for adults" (Offer, Ostrov, & Howard, 1981, p. 121).

Discussing the psyche of early adolescents, psychoanalysts have stated that early adolescents experience heightened sexual tension because of the "manifest growth of the external genitalia" (Freud, 1938, p. 605). The new sense of sensual gratification as a result of the developing penis, for example, causes intrapsychic conflict. Another child psychiatrist (Blos, 1971) states that early teenagers must reorganize their psychic structure in order to resolve the conflict that physical changes (especially maturing genitalia) and sexual drives cause. He states that in the period directly before adolescence the psychic structures become consolidated and are strong enough to to keep the child's psyche intact. In early adolescence, however, the many changes that occur cause the psychic structure to crumble and fall into disarray. The early adolescent regresses and once again, as had been done in infancy, begins to be greedy, does not care what he or she looks like, and enjoys the baseness of body functions.

The emphasis on the sexual nature of stages of adolescent development was challenged by researchers such as Erikson (1968), who shifted the attention away from the psychosexual theories of Freud (1938) to a psychosocial pattern of development. He believes that innate drives are not as important in determining a person's psyche as the culture and society in which a person developed. Eight developmental stages covering a person's life-time were developed by Erikson (1968), with the important task for adolescents being the development of an strong ego identity. Erikson states that even though adolescents experience many changes, including the physical changes, they must develop a strong identity in order to be psychologically healthy.

The notion that society plays a large part in determining an adolescent's response to changes, as opposed to innate drives being most influential, is also the basis for Havighurst's (1972) work on adolescent psychological development. He states that adolescents must master eight developmental tasks in order to adjust properly to their society. One of these tasks is that teenagers must accept their changing physique. Other writers agree and state that since early adolescence is the period when changes are most dramatic this task is especially important for early adolescents to master (Thornburg, 1970).

Cognitive Changes

Researchers have agreed that early adolescents change cognitively. The seminal work regarding cognitive development was written by Inhelder and Piaget (1958). They state that early adolescents begin to think abstractly, rather then concretely, and call this the "formal operations" stage of cognitive development. Because of this shift, adolescents are able to begin thinking beyond the present, begin reasoning and generating possibilities, and think reflectively (Hill, 1980; Keating, 1980; Muus, 1980). Patterns of learning also change because of cognitive development (Ingersoll, 1989). Prior to formal operational thinking, children have to experience the event themselves before learning about that event. Because of the increased cognitive abilities, however, adolescents are able to assimilate new information about a problem even when they have not actually experienced that same problem. Some writers caution, however, that all early adolescents might not be at the formal operations stage as implied by Inhelder and Piaget (1958). For example, Dulit (1972) concludes that "fully developed formal-stage thinking seems to be far from commonplace or routine among normal adolescents" (p. 296).

Basing his ideas on Inhelder and Piaget (1958), Elkind (1978, 1984) states that early adolescents exhibit "pseudostupidity." He believes that adolescents "often appear stupid because they [are], in fact, too bright" (Elkind, 1978, p. 129). In practising their new found thinking abilities, adolescents "over intellectualized" and developed complex ideas regarding a situation that could be very simple. Because an adolescent may have developed an overly complex solution to a very simple problem, he/she appears stupid. In other words, the newly attained formal operational thinking is not fully under control and that early adolescents are not always able to decide which of the options is the most appropriate.

Elkind (1967) also states that adolescents become very egocentric: "It is the belief that others are preoccupied with his appearance and behaviour that constitutes that egocentrism of the adolescent" (p. 1029). That is, as adolescents begin to think about their own thoughts, they become very aware of themselves, and, as a result, become very egocentric, self-conscious, and introspective. One result of this egocentrism is that adolescents develop a "personal fable." That is, because they think that everyone is watching them, they eventually come to believe that they are special and unique. Elkind (1984) states that the purpose of this fable is to allow adolescents to carry on with their lives and cloak themselves in a "shield of invulnerability" (p. 385). He notes that a second consequence of adolescent egocentrism is that early adolescents create an "imaginary audience." This is the belief that everyone is thinking only about them and concerned only about them (Elkind, 1984).

Cognitive maturation is an important development in adolescence and, in fact, the most important (Kagan, 1972) and unique (Brooks-Gunn, 1987) feature of early adolescence. With this newly acquired mental skill, early adolescents can approach and describe situations with new analytic tools. For example, some researchers (Blyth & Traeger, 1983) state that evidence of increased cognitive abilities is that adolescents begin to use more abstract psychological descriptors of themselves rather than concrete physical descriptors. Another researcher, however, found that the majority of early adolescent boys use physical descriptors and not psychological terms when describing themselves (Shore, 1984). That early adolescent boys use concrete rather than abstract terms supports the conclusions of Dulit (1972) and Hamburg (1974), who state that early adolescents are not as cognitively mature as Inhelder and Piaget (1958) believed them to be. In other words, if adolescents had cognitive maturity, they would have used more abstract concepts and fewer concrete concepts in describing themselves.

Social Development

Puberty is also a socially defined process that has different effects in different settings. Researchers have noted that early adolescents take their cues from the physical changes, but their responses to, self-perceptions of, and experience of their bodies are mediated by culture and society (Bernard, 1957; Boxer, Tobin-Richards, & Petersen, 1983; Diamond & Diamond, 1986; Dornbusch, 1989; Dusek, 1987; Petersen, 1985; Thornburg, 1983). For example, studying the level of adjustment and comparing them with various factors (e.g., level of maturation, school achievement, family and peer relations, body image, impulse control, and psychopathology), Petersen and Crockett (1985) conclude that responses to puberty are influenced more by a social construct (grade level) than by rate of physical maturation. Social constructs (i.e., peer expectations) are also more influential than degree of pubertal maturation, as determined by Tanner's (1962) stages, in the sexual involvement of early adolescents (Smith, Udry, & Morris, 1985). Dating behaviours are also more influenced by what friends expect adolescents to do rather than by the subjects' level of physical maturity (Dornbusch, Carlsmith, Goss, Martin, Jennings, Rosenberg, & Duke, 1981). Simmons, Blyth, van Cleave, and Bush (1979) measured the relationship among school structure, early dating, self-esteem, and pubertal timing and found that self-esteem was related more to the sociological variable of the expectations developed in school than to physical maturation.

Lewin (1939, 1960) states that teenagers are in transition between groups– from being a child to being an adult. Muus (1988) labels this transitional experience as being in "social locomotion" (p. 167). These writers note that a shift in social expectations and roles for adolescents also occurs, and adolescents may have ambiguous feelings about their new roles in society. For example, they are told to "grow up" and act their age at one time and then are told at another time that they are not old enough to engage in certain adult behaviours. Feelings of ambiguity are increased because adolescents are not emotionally and cognitively mature enough to deal with these mixed messages from society (Lewin, 1939).

Other researchers examining the relationship among age, onset of puberty, and formal thinking found that patterns of interaction between early adolescent boys and their parents were related to the son's physical appearance, independent of age or reasoning abilities (Steinberg & Hill, 1978). They state that at the apex of the pubertal period adolescent boys experience heightened conflict with their parents because parents feel the need for more control over their physically growing son. Bulcroft (1991) explains his findings within the framework of symbolic interactionism and states that a more mature physique resulted in adolescents being treated as being older by their parents. He found that parents perceived the physically growing adolescent as being able to act like an adult and able to behave more responsibly. The conflict between parents and early adolescent exists only if there was a difference between the adolescent's self-definition of maturity and how mature his or her parents think the adolescent is.

Often, early adolescents are expected to play roles for which they are not emotionally and cognitively mature. Hamburg (1974) states that parents and others use inappropriate guidelines for determining the appropriateness of behaviour for early adolescents. The reason for these inappropriate guidelines is that generalizations are often made from late adolescence about how early adolescents should act. This results in heightened stress for early adolescents who are unable to meet the demands of the roles they are supposed to fulfill. Hill (1980) gives examples of the role expectations which early adolescents may not be able to or may not want to meet: (a) they should develop interests and attitudes that are "adult-like" and (b) that they should act more mature when with their peers.

Many researchers have examined the increased importance that peers play in an early adolescent's life. Adolescents begin comparing themselves much more often to peers, and friends are used as the adolescent's main reference groups for determining what behaviour is appropriate (Boxer, Tobin-Richards, & Petersen, 1983; Mehr, 1981). In their study in which early adolescents carried electronic pagers for one week and reported their location and companions at random times Larson and Richards (1991) found a dramatic decline in the amount of time spent with families between the older and younger subjects in their study. The older early adolescents spent half as much time with their families as did the younger early adolescents. Boys were often alone when not with families, while girls were with friends or alone when they were not with their families. Other researchers also found that early adolescents consider same-sex peers as more significant than family members, although family members were still considered important (Blyth, Hill, & Thiel, 1982).

Physiological Development

Endocrinological and physiological manifestations of puberty have been frequently researched. Table 1 lists the average ages, standard deviations, and range of onset of the physical changes males experience during puberty. Researchers have examined the growth of body hair (Lee, 1980), physical growth (Lee, 1980; Marshall & Tanner, 1970; Pradler, 1990), testicular growth (Gondos & Kogan, 1990; Largo &

Table 1. *Average ages, standard deviations, and range of onset of male pubertal changes (in years)*

Change	Average Age (Yrs.)	Standard Deviation (Yrs.)	Range of onset (Yrs.)
pubic hair	12.3[2]	.08	11.0-14.0
spermarche	13.5[1]	.5	12.0-16.5
growth spurt	13.8[2]	1.1	12.5-15.0
body mass increase	13.9[2]	.9	12.5-15.5
axillary hair	14.0[2]	1.1	12.5-16.0
voice change	14.1[2]	.9	12.0-15.0
acne	14.3[2]	1.3	12.5-16.5
facial hair	14.9[2]	1.1	13.5-16.5

[1] Laron, Z., Arad, J., Gurewitz, M., Grunebaum, M., & Dickerman, Z. (1980).
[2] Lee, P. (1980)

Pradler, 1983; Pradler, 1975), acne (Fellowes, Billewicz, & Thomson, 1981; Potera, 1983), voice changes (Lee, 1980), and spermarche (Hirsch, Lunenfeld, Modan, Ovadia, & Shemesh, 1985; Laron, Arad, Gurewitz, Grunebaum, & Shemesh, 1980; Nielson et al., 1986). Researchers are in general agreement regarding the endocrinological changes that trigger the onset of the physical changes. There are some differences reported when researchers compared, for example, the relationship between spermarche and the onset of other secondary sexual characteristics. For example, researchers agree that first ejaculation occurs around age 13, but Hirsch et al. (1985) found a significant relationship between the incidence of sperm in the first morning voidings and the development of secondary sexual characteristics, while Laron et al. (1985) found no correlation between age at first ejaculation and testicular volume, pubic hair growth, or penis length.

The Effects of Pubertal Timing

Differences exist among researchers regarding the relative benefits and consequences of early or late maturation. Stolz and Stolz (1944) began the debate and stated that boys are very concerned about the "somatic conditions" that keep them from looking like men. This implies that late maturers, who look less like men, are more concerned about the onset of physical pubertal changes than early maturing boys who already exhibited some characteristics of adult men. Jones and Bayley (1950) studied early adolescent boys who fell at the opposite ends of a normal distribution of skeletal age (obtained by X-ray), observed these boys interacting with each other, and developed profiles concerning the following attributes: attractiveness of physique, grooming, animation, eagerness, uninhibitedness, matter-of-factness, unaffectedness, and relaxation. They concluded that early maturing boys were usually accepted and treated as more mature by others, while late maturers were treated as "little boys" and had to strive for status not automatically granted them.

Pubertal timing also affects the psychological adjustment of middle adolescent boys (Mussen & Jones, 1957). The consequences of maturing late in early adolescence has such a profound negative effect on the development of self-concepts that middle adolescents still feel the "sting" of having matured late in early adolescence. One of the disadvantages that late maturing early adolescents experience is that because they are smaller they have a competitive disadvantage in sports. Secondly, they are treated as being generally immature instead of only being seen as physically immature. In a longitudinal study, Jones (1965) distributed a personality inventory to the members of the sample she and Mussen had used in 1957 and concluded that even decades later the negative effect of maturing late was present. Men who were now in their 40's but had been late maturers in early adolescence scored higher on a psychoneurotic scale and lower on a scale which measured whether individuals felt they made favourable impressions. Jones (1965) herself states that caution should be exercised when interpreting these results because of the many intervening and uncontrollable factors that people experience between adolescence and adulthood.

More recently, researchers have concluded that early maturing boys feel more attractive and a have a more positive body image. Duncan, Ritter, Dornbusch, Gross, and Carlsmith (1985) conclude that early maturing boys are more satisfied with their weight and height than late maturing boys, although they do not suggest why this might be the case. Interestingly, they note that boys see the normal process of increased body size as being positive, but girls see the normal increased body mass as being negative because they look "fatter."

Other researchers examined the relationship between the puberal timing and self-esteem of adolescents (Simmons, Blyth, van Cleave, & Bush, 1979). Using height for boys as the measurement for pubertal maturity and distributing a self-esteem inventory, researchers found the early maturing boys (i.e., those who were taller) had greater self-esteem than boys who were shorter. The researchers concluded that societal expectations and structures were most important in determining the self-esteem of the boys. Other researchers who examined pubertal status and self-esteem, however, disagreed and found no correlation between pubertal status and level of self-esteem (Brack, Orr, & Ingersoll, 1988). As noted by these authors, researchers often do not explicitly state if they are measuring pubertal status according to the "textbook" norm or if they are measuring pubertal status according to the subject's self-rating in comparison to their peers.

Lastly, Nottleman et al.(1987) used standardized psychological tests, interviews, and blood hormone levels in their study to compare psychosocial adjustment with measures of biological development. They conclude that boys who developed later (as identified by hormone levels) had greater adjustment problems because they felt conspicuously different.

Not all researchers agree that early maturation is beneficial. Peskin (1967, 1973) was one of the first writers to caution blanket acceptance that early maturing boys would always be better adjusted. He agreed with researchers who stated that early maturers had advantages bestowed upon them by society such as being treated more like an adult; however, he states that these *sociological* advantages do not necessarily mean that *psychological* advantages also exist. In fact, late maturers may be at an advantage psychologically because of their longer latency period. (Latency is the period of development extending from about four or five years of age to the beginning of puberty.) If adolescents have a longer latency period and, as a result, others see them as being children for a longer period of time and do not place "adult" expectations upon them, they are thought to have more time to come to terms with their changing body. Early maturers, on the other hand, are at a disadvantage because their personality structure has not had as much time to mature before they are expected to act more adult-like (Nielsen, 1991). Dwyer and Mayer (1968) also agree with Peskin and state that although early maturers may have advantages because they are better athletes, begin dating earlier, and are placed in leadership roles they may have problems in living up to expectations that come along with these roles: "Some early maturers find that their mature appearance often pushes them into social situations for which they are not ready emotionally; they are expected to live up to adult standards appropriate to their size rather than their age" (p. 359).

Clausen (1975), another sociologist, agrees with Peskin. He states that boys do not necessarily want to be the first ones amongst their peers to experience the physical changes (e.g., be the first one to experience the growth spurt) because they would then look different from their friends.

Sex Education

Guidelines from the Alberta provincial government regarding sex education (Alberta Education, 1991) indicate that the curriculum is focused on factual information on such areas as human physiology, methods of contraception, and sexually transmitted diseases. The assumption behind this sex education approach is that if teachers give students the proper factual information then students will be better equipped to respond emotionally to situations. Also, this assumption is stated explicitly by other authors discussing the information that should be included in curriculae (Burt & Meeks, 1985).

Sex education teachers are not given much information about adolescent's feelings regarding maturational changes. For example, a manual written for teachers mentions only one emotional response boys may have to changes, that is, they may feel upset if they are maturing at different rates than their friends. The manual's advice to teachers is to tell the young adolescents that the different rates of maturation are really nothing to worry about because that is just "one more way each one of us is an individual" (Alberta Education, 1986, p. 159). Another book written specifically for sex education teachers focuses on physical changes and only briefly mentions that the onset of changes can vary among individuals and that late maturing boys may feel anxious and inferior (Blair & Jones, 1964). Higgins and Tuttle (1984), writing specifically for health professionals, only discuss the physiology of the early adolescent changes and not the emotional responses to these changes.

A Danish researcher (Shore, 1984) found that Danish boys relied more on sex education classes and peers than on parents for information about sexuality. This was also the conclusion of a Canadian study done by Cull-Wilby, Alcoe, and Taylor (1985). All these researchers conclude, therefore, that sex education curriculae should be comprehensive and also address the less tangible issues, such as feelings and emotions, instead of only requiring students to memorize methods of contraception and symptoms of venereal disease.

Literature for Parents and Adolescents

Numerous books have been written for parents explaining the early adolescent experience. The assumption behind some of the books, as it was for the books written for teachers, is that as long as parents know the "facts" of physiological change they can come to understand what early adolescent boys are experiencing. If parents know they can discuss these changes with their children, and the emotions adolescents have while experiencing these changes will emerge (Calderone & Ramey, 1982).

Other books discussed briefly some of the feelings that adolescents may experience as they go through these changes. For example, Lerrigo and Southard (1973) state that adolescents might be worried if they are late in developing. Ames, Ilg, and Baker (1988) briefly describe some of the feelings boys may have that accompany the early adolescent experience (e.g., feeling anxious if they are later in changing than their friends, feeling embarrassed if their voice broke). Gottlieb (1957), a doctor, describes more fully what boys might experience when going through these changes. He describes early adolescence as a time when people are ambivalent about wanting to enter adulthood and leave the comfortable advantages of childhood. He notes that boys are proud yet self-conscious when facial hair first appears or when the voice first breaks. He also states that boys who have not been told of spermarche before it occurs would be more disturbed when they have their first wet dream that boys who have been told what to expect when spermarche occurs.

Many books written for young adolescents focus on the facts of the changes. For example, Schindler (1989) gives a very good description of the endocrinological changes in early adolescence that trigger the development of secondary sexual characteristics. He includes a good description of the patterns of change and the age of onset of the various changes. Other authors focus on the facts and then add very brief descriptions of what adolescents might feel while going through these changes. For example, Cale (1988) states that changing adolescents may wonder about their changing bodies, while Comfort and Comfort (1979) discuss ejaculation and state that it may feel good for the boys.

Some books that have recently been written that go beyond simply discussing the facts and include some descriptions from boys themselves of what they felt like when they experienced these changes. McCoy and Wibbelsman (1987) use direct quotes from adolescents to show that early adolescents wonder about what would happen to them, that they are confused about the changes, and that boys can be embarrassed when in the locker room shower if they had not matured as much as others. Although using quotes mostly from older men reflecting on their experience of pubertal changes, Madaras (1988) includes a few examples of what these men stated they had felt. For example, one man said: "It's a 'Hey, whoopee, I'm finally growing up' kind of feeling" (Madaras, 1988, p. 40). Bell (1987) also uses quotes from boys in her book as she describes the early adolescent experience (e.g., embarrassment when voices cracked, feeling insecure when being smaller than others, and feeling good about getting facial hair).

Different organizations have produced pamphlets for adolescents discussing the changes of puberty. Of the four pamphlets found, three of them discuss only the facts of physiological changes (Castleman, 1990; Planned Parenthood Association of Edmonton, ND; Planned Parenthood of Minnesota, 1983). The other pamphlet (RAJ Publications, 1989) discusses that some boys may: (a) worry if their changes start later than others, (b) get embarrassed because the sudden growth spurt may make them awkward, and (c) get embarrassed because of spontaneous erections.

Literature Based on Descriptive Data

Even though researchers recognize that the best information about adolescents will come from the adolescents themselves (Thornburg, 1970), that the subjective experience of pubertal development is important when developing sex education programmes for adolescents (Shore, 1984), and that the personal meaning early adolescents attach to these changes should be considered (Yarcheski & Mahon, 1986), few descriptive research studies have been done examining changes in early adolescence. A psychology professor who wanted to get a "feeling" for the adolescent experience asked students to write descriptive passages about any of their experiences during the entire period of adolescence. One male student wrote about being an early adolescent and briefly mentioned that he felt he had a problem because he was much smaller than his friends and could not excel in sports. Then, once he grew, he gained self-confidence and became more sociable (Golburgh, 1965).

Only two other books were found that used descriptive data in discussing what early adolescent boys experience. To develop a profile of the "normal" American adolescent boy, Offer (1969) and Offer, Ostrov, and Howard (1981) used psychiatric interviews and psychological tests. Both open-ended and semi-structured questions were used, and these data were analyzed quantitatively. Some of the questions asked in both of these studies related to the degree of satisfaction early adolescent boys felt about their bodies. In the first study, subjects were asked to plot on a Likert scale (1 indicating the least amount of satisfaction while 6 indicating the most amount) whether the recent changes in their body gave them satisfaction. The mean answer to this question was 2.94, and the response was similar when subjects were asked whether or not they thought others saw them as being poorly developed. In the second study, the mean scores were not given, but the results indicated that 76% of the adolescent boys felt that the recent changes gave them some satisfaction, and that 20% of the boys felt others assessed them to be poorly developed.

Adolescent Boys' Experience of Physical Changes

Few researchers have examined the experience of pubertal changes of early adolescent boys. One of the first studies to determine what boys feel was conducted by Frazier and Lisonbee (1950). They used a questionnaire and Likert scales to collect data about how adolescents in grade ten saw themselves physically and how they felt about themselves. The questionnaire dealt with issues of height, weight, rate of development, facial appearance, and desire for self-improvement. These data were analyzed quantitatively. One important finding was that boys who considered themselves to be maturing late were especially concerned about their slow development.

Although Petersen, Tobin-Richards, and Boxer (1983) state they were most interested in the "phenomenology of early adolescence" (p. 57), they used a quantitative tool (Likert scale) in collecting data about how positive or negative boys were about the pubertal process. They state that they recorded "spontaneous responses" to physical changes but give no indication as to how these responses were analyzed. The main finding of the study is that a positive linear relationship exists between advanced physical maturity and positive body image.

A study done by Gaddis and Brooks-Gunn (1985) examined the emotional response of early adolescent boys to one physical change (spermarche). After analyzing data obtained by using a structured questionnaire, a Likert -type scale to assess the psychological reactions to change, and an interview, the researchers conclude that boys responded positively to spermarche especially if they had been given information prior to the experience. However, subjects stated that their parents rarely talked about spermarche, and only three of the eleven subjects indicated that ejaculation had been *adequately* explained to them. None of the subjects expressed shame, and very few were upset, although half of the subjects were "a little scared." None of the subjects had talked to any of their friends about spermarche, and few subjects stated that they would initiate a conversation with a younger male sibling about ejaculation.

Conclusions

Writers have acknowledged that pubertal changes are very important for an early adolescent. One would think, therefore, that many studies using various approaches, including asking adolescents themselves to describe their experience, would be available. Instead, the pubertal experience has been examined infrequently, and two of the three studies were done decades ago. In the study done recently, researchers examined the response to only one change (spermarche). None of these studies were from a qualitative research perspective, yet descriptive data would be very useful in gaining insight into the experience of pubertal changes. As well, it is interesting to note that most of the writers and researchers discussing the pubertal experience of boys have been women. The effect of this bias, if any exists, is unknown. Therefore, even though there is much information available on early adolescence in the literature, a major gap exists–there is virtually no research examining the emotional experience that early adolescent boys have while undergoing the physical changes, and very little has been done by male researchers. Recognizing that the knowledge base regarding early adolescence, especially boys, is incomplete, this researcher used a design that allowed something of the complex experience of adolescent boys to emerge.

Chapter 3: METHODS

Adolescent boys' emotional responses to physical changes have not been sufficiently examined and, therefore, a comprehensive understanding of the early adolescent boy's experience is missing. Qualitative research methods were used in this project to obtain the personal and descriptive data needed to examine these emotional responses. The basic assumptions of qualitative research are that data is derived from the direct experience of individuals, that people create their own social world, and that social existence depends on sharing and negotiating the meanings of these experiences with others (Benoliel, 1984). In other words, to understand what individuals are experiencing, they must be asked to explain their experience in their own words.

Grounded Theory

Grounded theory is a qualitative method that generates models and theory. The theoretical basis of grounded theory is Symbolic Interactionism (SI), which "focuses on the meaning of events to people in natural or everyday settings" (Chenitz & Swanson, 1986, p. 4). SI is based on the work of Mead (1934), a social psychologist, who states that since individuals are members of a social structure their actions must be evaluated within that structure. Individuals, through their own interpretive processes, modify the experience of a phenomena and create their own meaning of that experience (Blumer, 1969). The essence of SI is: "[People] do not cope with situations but with their definitions of those situations". (Rock, 1982, p. 34).

First-hand information about boys' experience of physical changes in early adolescence was obtained by using the method of grounded theory. Induction, deduction, and verification were used by the researcher while collecting and analyzing the data. Hypotheses were developed inductively from data, and as hypotheses emerged from comparing data, the researcher used deduction to further analyze the emerging theory. Informants were then asked to verify whether the description of the emerging theory was accurate. The process was facilitated by following established procedures of theoretical sampling, data collection, and data analysis.

Theoretical Sampling

A demographic representative sample is not used in qualitative research, but rather, informants are chosen contingent on the information required (Lincoln & Guba, 1985). Therefore, a "theoretical sample" was used in this study. Informants were chosen based on their knowledge of the topic and the information needs of the researcher rather than according to many predetermined criteria. Both primary and secondary informants were used in this study. The primary informants and two of the secondary informants were adolescent males who were at least 15-years-old (or, as in one case, almost 15 years old who was not a late developer) because by that age the physical changes of puberty have usually been experienced (Hill, 1980; Lee, 1980; Neinstein, 1984). The adult secondary informants were chosen because of their close contact with early adolescent boys (e.g., sexuality educators or parents) or, as in the case of the 32-year-old and 38-year-old male, because they had experienced the changes themselves. It was beyond the scope of this project to address experiences of early adolescent boys from other cultural groups; therefore, the selection of adolescents in this study was confined to White, male Anglo-Canadians (i.e.,. White, English-speaking adolescents born in Canada).

From interviews with primary informants, the general process of how the physical changes were experienced emerged. Within the general process, stages that the informants went through and the experience within those stages became evident. Future informants were then selected, and further questions were based on how much information was needed to fully describe the experience. Secondary informants were asked to validate the experiences described by the primary informants. If secondary informants disagreed with information received from primary informants, or if they disagreed with the researcher's description of the process, they were asked to describe their experience or to "correct" the researcher's description. This information was then incorporated into the emerging theory.

Colleagues and friends suggested appropriate informants. Informants were also asked to suggest informants, but it is interesting to note that none were obtained through this "snowball sampling" technique. A personal visit or phone call to the parents of potential participants was made to explain the project and to ask for permission to talk with their child. The project was then further discussed with both the parent(s) and the child, and consent was obtained. All adolescent informants, although given the choice of face-to-face or telephone interviews, requested face-to-face interviews. Telephone interviews were conducted with some of the secondary informants.

Predicting the required sample size prior to beginning the research was impossible since in grounded theory informants are sought until data are saturated (Bogdan & Taylor, 1984). The emerging theory ultimately determined the number of informants, and 22 informants were interviewed (see Table 2).

Table 2. *Characteristics of primary and secondary informants and number of interviews*

Informants #	Age (Yrs.)	Grade	Oldest *boy* in family?	Number of interviews
Primary				
1	15	10	Yes	3
2	15	10	Yes	3
3	15	10	Yes	1
4	14	9	Yes	1
5	17	12	No	1
6	17	12	Yes	2
7	18	12	Yes	3
8	16	11	Yes	3
9	15	10	Yes	1
10	17	12	No	1
11	15	10	No	1
12	16	11	Yes	2
Secondary				
13	16	11	No	1
14	18	12	No	1
15	Sex education teacher (female)			1
16	Sex education teacher (male)			1
17	32-year-old male			1
18	38-year-old male			1
19	Mother of 16-year-old male			1
20	Mother of 17-year-old male			1
21	Father of 16-year-old male			1
22	Adolescent sexuality expert (female)			1
				32

Data Collection

Data were collected using multiple in-depth face-to-face or telephone interviews, and interviews were tape-recorded. Interviews were unstructured and informal since this was the best method to obtain private or personal data (Swanson, 1986). Broad questions began the interviews: (a) Tell me about becoming a teen? (b)

Tell me about your experience of body changes in your early teenage years? and (c) In what way do you feel different now that the changes have occurred? As more specific information was required, questions were increasingly direct and focused: (a) Tell me about the first time your voice broke? and (b) What did you do and feel like the first time you had a wet dream?

Field notes were written down immediately after the interview and expanded later. These notes included reconstruction of interactions, descriptions of events or settings, and impressions of nonverbal behaviour.

Another source of ongoing data was the existing literature. Once analysis had commenced, literature discussing the identified concepts helped to guide questioning and to validate the emerging process. For example, it soon became evident that embarrassment was an important aspect of the process. Reading literature on embarrassment, then, helped the researcher better understand the informants' experiences and helped to develop further questions.

Data Analysis

The first task was to become extremely familiar with the data. Tapes were transcribed, and transcripts were checked for accuracy. "Theoretical coding" then began, a term which refers to the constant comparison of the data across interviews (Field & Morse, 1985). Data were closely examined to determine similarities, and these similarities were then coded by assigning labels to them. To facilitate analysis, "MicrosoftWord," a computer software package, was used to copy and sort data from the transcripts into the appropriate categories (Morse, 1991).

Different levels of codes were used, and each level increased in abstraction and became more theoretical. Level I codes simply identified similar data. For example, informants talked about dressing in the physical education change room with their backs to others or stated they stayed at home sometimes when their acne was bad. These instances were labelled as times when informants "avoided" being seen by others in certain situations. These Level 1 codes were eventually reduced to a Level II code and were called "using strategies." Level II codes were more abstract and were labels reflecting the meaning of a group of Level I codes. Other Level II codes that emerged in this study were "being embarrassed", "comparing", "worrying", and "wondering". After analyzing the group of second level codes, a Level III code (constructs) was developed. For example, the Level II code of "using strategies" was further reduced to a Level III code called "concealing." Constructs gave theoretical meaning to the emerging theory and conceptualized the relationship among the three levels of codes (Hutchinson, 1986). This constant comparative method of reducing codes produced a strong, parsimonious theory that was truly grounded in the data.

The development of the different *levels* of codes was done in the context of using three *types* of coding: open, axial, and selective (Glaser, 1978). Open coding refers to the initial examination of data when transcripts were analyzed line by line and provisional labels given to similar data. Axial coding refers to analyzing data intensely around one category at a time to "zero in" on the concept. The researcher did this for each of the categories. For example, after determining "using strategies" was a category, the researcher re-analyzed all the data related to "using strategies" to better understand this process. Lastly, selective coding refers to coding systematically and concertedly for the core variable. Once the researcher had an idea of what the core variable might be, he re-examined all data to gain a better understanding of what *Minimizing Embarrassment* really meant.

As suggested by Glaser (1978), *in vivo* codes (or terms used by informants) were used when possible. Using these words helped to ensure that a description of the experience was kept true to the actual experience of informants. An example of in *vivo codes* is "checking out," which described the process of informants comparing themselves to others.

Eventually, saturation of the data occurred. This refers to the completeness of all codes and categories because no new conceptual information emerges from data and all the variation within the data can be accounted for (Hutchinson, 1986), and the researcher must make a judgement regarding when saturation occurs (Turner, 1981).

Another strategy used in data analysis was describing linkages among categories. Linkages helped put conceptual order on the mass of data, and initial hypotheses were generated after examining concepts that had been linked. Determining linkages did not occur too early in the analytic process in an effort to avoid premature closure of categories. Diagramming was a technique used to visualize linkages and to indicate poorly developed, missed, or incorrect categories.

Memoing is an essential activity while analyzing data (Stern, 1987) and is so important that Glaser (1978) describes this as the "bedrock of theory development" (p. 83). By memoing, the researcher preserved emerging hypotheses, analytical schemes, hunches, or abstractions. Thoughts, ideas, or relationships emerging from the data were "memoed" as the taped interviews were listened to or the transcriptions were read. Memoing directed further sampling, described linkages, and was a record of the theory's development.

Basic to grounded theory is the discovery of core variables. Core variables explain the major processes. They answer the question, "What is the main story line?" (Corbin, 1986). Core variables: (a) are central and related to other categories, (b) occur continuously in the data, and (c) account for most of the variation in the data

(Glaser, 1987). The core variable is this project was *Minimizing Embarrassment.*

Reliability and Validity

Reliability and validity issues are extremely important in grounded theory. To ensure reliability, the following strategies were used: (a) biases and prejudices were "bracketed" or set aside while collecting and analyzing data; (b) the rigorous steps in grounded theory were followed as outlined by Glaser and Strauss (1967), Glaser (1978), Strauss (1987), and Strauss and Corbin (1990); (c) the emerging theory was validated with informants; (d) colleagues examined the data and critiqued the analysis; (e) multiple interviews clarified inconsistencies; and (f) field notes were written or tape recorded immediately after the interview to ensure salient data would not be forgotten.

A theory must fit and work to be valid (Glaser & Strauss, 1967) and must "ring true" for people who have gone through the experience (Munhall, 1982). Threats to validity might have been the "reactive effect" (artificial conditions affecting the response just because of researcher's presence) and the status or role of the interviewer which may have influenced the subject's responses in some way. Using field notes, seeking second opinions, struggling with personal biases, and validating the theory with informants lessened these threats.

That informants might be embarrassed was a threat to validity since they may not freely or accurately discuss their experience in an effort to avoid embarrassment. Putting the informant at ease, therefore, was especially important in this study. Several strategies were used to help alleviate embarrassment. First, assuming that informants might be more embarrassed in a face-to-face interview, the researcher gave informants the choice of a telephone interview instead of conducting a face-to-face interview. All informants choose face-to-face interviews, and all but three informants (who requested to be interviewed in the researcher's home) were interviewed in their own homes. Interviews were conducted in a relaxed setting, which allowed the researcher and informants to become acquainted with each other and to clarify information. To help informants "open up," the researcher, as recommended by Bogdan and Taylor (1984), was non-judgmental, let informants talk, and paid attention to what was being said. Another strategy used to alleviate embarrassment was to ensure confidentiality (Faux, Walsh, & Deatrick, 1988). Informants were told that all information and data would be kept confidential and in a locked area. A final strategy, as suggested by Edelbrook and Costello (1984) and Yarrow (1960), was to clarify the purpose of the interview and the researchers' expectations. The researcher discussed the study's purpose when seeking consent and again before each interview.

Another aspect of this project which may have lessened the amount of embarrassment was that the researcher was male. One researcher Yarrow (1960) states that adolescent boys are less inhibited when talking to a male researcher. This researcher also found that informants appeared less inhibited when interviewed a second or third time.

Another issue of validity is generalizability. A difference exists between the meaning of generalizability for quantitative and qualitative research. Grounded theorists aim for theoretical generalizability. That is, researchers do not want to determine how much of a phenomenon exists (as is the case in quantitative research); instead they want to develop theories that are applicable to others who experience that phenomenon (Morse & Johnson, 1991). In this study, the researcher did not want to *measure* the statistical distribution of emotional responses to physical maturing, but rather the purpose of this research study was to *describe* the emotional processes boys experience while undergoing physical changes.

Ethical Considerations

Participants in this study and their parents needed to know what would happen in the course of the project, what procedures would be used, how much time would be involved, and what the risks and benefits were of participating in this study before signing the consent form (see Appendix A). Informants were told that the interview would last about an hour (all interviews lasted less than 45 minutes), that more than one interview might be necessary, that the interviews would be taped and transcribed, that informants would not gain direct benefits from being in this study, but that their information would help develop an understanding of early adolescence. Informants were told that the greatest risk might be feeling embarrassed and were assured that the researcher was aware of this.

The major ethical consideration in this study was the violation of confidentiality. Codes, and not names, therefore, were used to organize the data. The code list, transcripts, and cassette tapes were kept in a locked area.

The researcher emphasized that this was a research interview and not a counselling or health-teaching session but that if questions about health concerns arose answers would be provided at the end of the session or referrals to appropriate agencies would be made. However, the researcher was not asked any questions, not did he have to make any referrals. Lastly, participants were told that if information was given that must be legally or ethically reported the researcher would inform participants that a report was going to be filed. The researcher did not have to make any such report.

Chapter 4: FINDINGS

As data were analyzed, a process emerged describing early adolescent boys' experience of undergoing physical changes. The core variable in this process was Minimizing Embarrassment, and the four stages that boys went through while experiencing the changes were: Waiting for the Change, Noticing the Change, Dealing with the Change, and Feeling Comfortable with the Change.

Core Variable: Minimizing Embarrassment

Minimizing Embarrassment was the core variable that tied together all the data. As one informant stated, "Now when I look back, I think it [period of physical changes] all–I was so worried and everything–about being embarrassed." Table 3 depicts the process of Minimizing Embarrassment. Informants were in the first stage, Waiting for the Change, before any change had occurred. As informants' bodies started to physically change, they began Noticing the Change, Dealing with the Change, and eventually, Feeling Comfortable with the Change.

Informants began expecting the changes after they had been told that changes would occur or had seen the changes in others. Wondering and imagining what their physical appearance would be after experiencing the changes were important processes in determining expectations. Informants then began "checking out" their changes and comparing themselves with others. If, after comparing, informants concluded that they were "normal", they simply accepted the change or, as in the cases during the first change, lack of change. If informants felt "abnormal," they worried and began using strategies to avoid embarrassment or to deal with actual

Table 3. *The process of* Minimizing Embarrassment

	Stage One: *Waiting for the Change*	**Stage Two:** *Noticing the Change*	**Stage Three:** *Dealing with the Change*	**Stage Four:** *Feeling Comfortable with the Change*
Expecting	Anticipating the change	Feeling embarrassment and losing confidence	Anticipating the feelings of embarrassment	Regaining confidence
a)Wondering	What will the changes be like?	What will work to keep me from being embarrassed?	If I do this or that will I be able to cover the embarrassment?	When will the changes stop?
b)Imagining	Comparing self with older male family members	Comparing self with older guys	Comparing self with older guys and adult men	Comparing self with adult men
Checking out changes	Comparing occasionally	Comparing more frequently	Comparing constantly	Comparing occasionally
Feeling "abnormal" and being embarrassed	Using strategies to conceal the fact that you have not yet changed	Using strategies to conceal the fact that you are now changing	Using strategies to cover the embarrassing moments caused by the change	Using strategies competently
Feeling "normal"	Looking for change	Approaching the change as if it was no big deal	Telling yourself that you fit in with the crowd	Fitting in with the crowd

embarrassment. Then, as a result of using strategies, informants experienced as little embarrassment as was possible in that situation. The phrase "as little embarrassment as possible" is used consciously because informants were inevitably embarrassed in many situations.

Informants were waiting for, noticing, dealing with, and feeling comfortable with a particular change only once; however, they could be in different stages with different changes at the same time. For example, an informant could be concurrently getting used to one change, expecting another change, and noticing a third change. Later, he could be feeling comfortable with two or three changes, noticing a different change, and not expecting any further changes. At any given time, therefore, informants could be experiencing many different feelings.

Another important point to consider when looking at Table 3 is that informants experienced the changes at different ages and in different sequences, and these differences are not reflected in the table. In other words, there is no "variable" for age and sequence of changes incorporated into the table.

Stage One: Waiting for the Change

Expecting

Waiting for the Change began when informants first developed expectations and started anticipating what it would be like to experience the changes. Informants received information about the physical changes from a variety of sources: sex education classes in school (which began as early as grade four), parents, friends, older brothers, books, and "rumours." Informants often verified the information they received irrespective of the source. They would "double-check" with parents, friends, or sex education teachers. For example, one informant said

> I heard rumours before that [were] generally the same as in the book and from school. But there was a difference. So once I heard rumours...the book was just like a back-up. It just told me the truth. So the rumours that weren't true I knew, and the ones that were true I'd know.

Older brothers and friends were indirect sources of information. One informant, when asked if his older brother talked to him about the changes, said "No. Kind of–maybe in a joking kind of way and stuff like that. Not really just talking." Another informant said "The only person that ever told me anything would be my brother, and he just joked so I wouldn't take him serious anyways." Older brothers were sometimes not even an indirect source of information. For example, when asked if he talked to his younger brother about the changes, one informant said he would not initiate discussion nor was he aware of what changes his younger brother had already experienced. Information from friends was also only acquired indirectly through joking or kidding. By seeing how peers responded to jokes about physical changes informants gleaned information about what their friends were experiencing.

Information was received directly from parents and teachers. This information dealt exclusively with the "facts" of the changes. There was never any direct, frank discussion of what it might feel like to wait for the changes or how boys might feel once the changes started.

Expectations were also developed by looking at others. In fact, all informants stated that what they could *see* when they compared themselves with friends was more important in developing expectations than what they had *learned* would happen. For example, even though he had been taught that maturational rates are variable and should be expected, when asked how he had developed, one informant stated

> From others. When I look at them and they are so far ahead of me, I say,

> "Well, I should be up with them." So when I get there I'm as far as I should be.

Some informants stated they compared themselves to others infrequently, yet during the interviews, every informant always knew how their physical changes compared with the physical changes of others.

Wondering and Imagining

Two important processes in developing expectations were wondering and imagining. Informants often wondered what the changes would be like, and wondering about the change was the reason several sources were sought to validate information. Mostly, however, informants wondered when the change would occur and what would actually happen. One informant summarized "wondering" in the following way:

> When am I gonna change? Is the book telling the truth? Are my friends telling the truth? Are the classes telling the truth? Just wondering about the changes. About if what you hear is correct, or whether it's different. Just generally is what I read the truth? When is it gonna happen? What's it gonna be like? Am I gonna be a different person? Am I gonna be say, be more of a jerk, a nicer guy? Am I gonna make fun of guys that are slower than I am. More of when is it gonna happen? What are the changes gonna be like?

Wondering intensified as informants who were not yet changing saw that their friends were changing.

Informants continued to wonder even after experiencing some changes while waiting for other changes to begin. The reason for continuing to wonder was that they were still not sure if all the changes were *really* going to happen:

> It [the first change] was good enough, but I wanted to see the other ones just to make sure. It was fine. It was, like, OK. It's gonna happen, I hope. The first one was good enough, but then the other ones are like backup, just in case.

Informants who had not yet changed began imagining or developing a mental image of what they would look like once the change occurred. Informants compared themselves with older family members when they imagined what they would look like (e.g., "My family has got strong blood in it, so I imagined that I would be strong, too." "Will I get as tall as Uncle Joe?"). In this stage, informants frequently imagined what they would look like because they had no actual experience with the change yet and were not sure what to expect.

Checking Out

Informants started occasionally "checking out" their physical development with the progress of their friends' changes. Whereas informants used older family members as the reference point when imagining what they would look like, they used friends and peers as the basis for comparison when "checking out" their rate of development. Informants began comparing in order to establish their place on a maturational timing continuum. The farther to either end of the continuum informants fell, especially if they were closer to the "late" end of the continuum, the more "abnormal" and embarrassed they became. Even those informants who stated that they had matured normally said that they *would have become* more embarrassed if they had fallen on either end of the continuum. Informants who thought they were late compared more frequently in this stage because they were anxiously waiting for the change to start.

The reason that all informants wanted their rate of physical development to be in the middle of the continuum was that then they would feel "normal". A simple definition of "normal" was used throughout the whole process of *Minimizing*

Embarrassment–informants wanted to look like their peers. Informants described normal as "want[ing] to look like everybody else" and "just fit[ting] in the crowd, and not stand[ing] out too much. Just be unique, you know, but not too unique because that's too noticeable."

Informants compared most with people who were just a bit older than they were as opposed to males who were quite a bit older than they were. One informant said he compared himself to "my brother and my friends more than my dad for sure 'cos I can see him [brother] going through the changes 'cos he's just two years older."

Feeling "Abnormal"

Why was it so important that informants felt normal? The reason was that informants did not want to be embarrassed, and being "abnormal" caused embarrassment:

> I guess most of us view our friends as the people that we should be like. And if we're different, they won't be our friends anymore. That's the way it is. Some people are shorter than others. They haven't matured yet, and people just say, "Oh. That's it. This guy, look at this guy. He's a lot shorter than us. He's a nerd. We don't want him near us."

The amount of embarrassment experienced depended largely on how "abnormal" informants felt, which, in turn, depended on how late or early they thought they were. Informants became hyper-aware of the similarities and differences in their body or voice compared with others. Even though informants had been told that maturational timing varied considerably, this information was small consolation at the moment when they thought they looked different from others. A teacher who taught both physical education and sexuality education confirmed that late maturers were more embarrassed than earlier maturers:

> In the locker room after classes, you will see a huge difference between the kids who are growing a bit faster, and the ones who are not up to that point yet will try to hide away. They'll just stand in a corner. For instance, if they're changing after swimming, they will use a towel or something [to cover themselves]. While the guys who are maturing faster will be proud of the fact [that they are changing].

Informants gave many example when they were embarrassed as they were waiting for the change to occur:

> I was feeling really bad when I didn't have any [changes], when I wasn't past puberty. That's when you feel the worst.

> Maybe you'd be more embarrassed if you didn't yet, let's say, have hair in the armpit, or whatever. That would be more embarrassing 'cos you wouldn't be like the other guys."

Informants were embarrassed, however, only if others knew that change had not yet occurred. For example, if only the informant knew that he did not have any pubic hair, he was not embarrassed. However, if others who already had pubic hair found out, embarrassment would occur. One informant, when asked at what time he was most embarrassed, said

> If you have friends that have already changed, then you're probably trying to avoid being seen. But usually, people that change before think they're all hot and everything so they're really not avoiding it, but you are because you haven't changed yet.

The threat of embarrassment was so great for one informant who was late in getting pubic hair that he skipped school so often to avoid gym class that he failed a grade.

Only facts about the changes were discussed in this stage by teachers and parents–the "birds and the bees" lecture, as one informant called it–yet even with parents, who were generally trusted to give correct factual information, informants wanted to hear only so much. The reason was that even discussing the changes caused a lot of embarrassment:

> You didn't want to hear all these things from your parents. You didn't want to hear anymore. You felt like, "Oh, that's nice mom, OK. Thanks dad. Can I go and talk on the phone? Can I go watch TV now? Can I do something? I don't want to hear all this. You're explaining it too deeply. I don't want to hear this."

At no time were the feelings and emotions discussed that accompany waiting for the changes. Talking about the fact that pubic hair will eventually appear caused enough embarrassment let alone talking about what it feels like to wait for pubic hair to grow. Sex education teachers noted that early adolescents asked questions about the physiological dimension of pubertal changes and were interested in knowing what the changes were, but they never asked to discuss the affective responses to the changes. The reason for this reluctance to ask a question in class was, as one informant stated, "because people might laugh at it or something like that."

In response to embarrassment, or the threat of embarrassment, informants became worried. What was the difference between wondering, which was described earlier, and worrying? Informants wondered about the change if they considered themselves to be normal and, thus, did not have to worry about becoming embarrassed. Wondering changed into worrying, however, if informants began to think that they were "late bloomers" and different from others. For example, informants would have worried, and not just wondered, if they had been the last one to have axilla hair. Another way to explain the distinction between wondering and worrying is that wondering was future oriented, while worrying was present oriented:

> Wondering is probably when you're a little younger. But then worrying is probably when you're getting older and everybody else is matured and you're

> kind of a late bloomer or whatever.

The following situation mentioned by an informant did not actually happen to him, but it is an example of how worried underdeveloped boys can be about being "found out":

> I: Someone found out there was this one guy....They say he had no hair on his, you know...
> R: Pubic hair.
> I: Right. Pubic hair. Everyone was calling him "Baldo" and stuff like that. It was pretty mean, but it was still...

All of the informants worried about looking normal during this stage and whether they would be embarrassed or not, but one of the factors that determined the degree of worrying was whether the informant considered himself to be maturing normally:

> I knew a guy who I went to school with who started getting this problem with a hormone imbalance, and he started out developing really early and that was always a fear that I might develop extremely late or out of time or extremely early. In that case, there would be something wrong.

A second contributing factor to the degree of worrying was whether the informant had already experienced other changes. If informants had already experienced other changes, they worried less while waiting for another change to occur:

> It's [worrying] not as intense [after the first change]. It's just like, OK, they [other changes] will be coming sooner or later. So I just shouldn't be as nervous as I was before. I was just normal. I wasn't really waiting cause I knew they would come. So I wasn't as impatient.

Informants did not worry about the actual change *per se*, but they worried about the reaction of others or about their own reaction to the change. Although they had learned what the physiological facts of the change were, because no one had ever discussed with them what it would be like to actually experience the change or how others would react to the changes, informants had little idea of how they might react emotionally to the change. Some of the informants may have seen the reaction of friends who had already changed, but all informants stated that they were still worried about how they would actually react to the change. Informants describing what they worried about during this stage stated:

> I guess you don't know. You don't know how people are going to react, sort of thing.
>
> Well, I guess the biggest scare is that I didn't have a choice in the matter. I didn't know know how much embarrassment or stuff like that I'd have to go through in the future against my will.

Informants used strategies to hide the fact that they had not yet changed. Hiding this fact was important because if others knew the informant was physically immature, especially if his friends had already started to change, then he would be embarrassed. Strategies were also used to deal with embarrassing situations that had been unavoidable. When asked how they responded to the changes, informants at first said that they were unaware that they had used strategies. During interviews, however, all informants gave numerous examples of what strategies they used to avoid embarrassment or what strategies they used to deal with actual moments of embarrassment.

Avoiding was a strategy used both consciously and unconsciously. Informants consciously avoided situations where they would have to disrobe in front of others. For example, one informant, who did not have pubic hair, said,

> When I was swimming, I'd just go in the corner. I would put on my T-shirts before I took off my shorts, and I'd always try to get a long shirt, too, on swim days. It's embarrassing because they're saying I'm immature.

Another informant who did not have axilla hair avoided being "found out" by *always* wearing long sleeved shirts. Informants also avoided discussing the emotions and feelings that were aroused while waiting for the change because they were too embarrassed to openly and directly discuss their feelings.

Accepting was a common strategy used to both avoid becoming embarrassed and to deal with actual embarrassment. Informants had developed the expectation that "normal" adolescent boys eventually start changing during puberty. Informants, especially the late maturers whose friends had already started to change, stated that by accepting the fact that they would eventually change they were sometimes less embarrassed about their unchanged body. As well, when embarrassment had been unavoidable, informants would often tell themselves and would accept the fact that their bodies would eventually change.

Another strategy used by informants was joking. Informants would tell jokes to avoid embarrassment or when they were actually embarrassed. The joke was either related to the situation or just "any old joke I could think of." By joking, informants deflected attention away from themselves and from the situation that was causing embarrassment.

The final strategy used by informants to avoid embarrassment was pretending. To fool others into thinking that they had already changed, even if they really had not changed, informants pretended to understand and laugh along with jokes about pubertal changes. If informants pretended to understand the joke, they gave the impression that they had already started to change, and others would not discover the truth. One teacher verified that adolescent boys pretended to understand jokes:

> An awful lot of times the kids do not get the jokes because they haven't reached that point yet. They will still be laughing as much as everybody else even though they're not sure.

Feeling "Normal"

If informants assessed that they were normal, little embarrassment occurred, and strategies were not needed. Informants felt normal even if they had not yet started changing as long as not *too* many of their peers had begun to change. If only one or two of their friends were changing, informants were not concerned and were just waiting for the changes to begin.

Inevitably, all the informants did start to change, and the stage of *Waiting for the Change* ended. Informants entered the next stage, *Noticing the Change*, once they realized physical changes were beginning.

Stage Two: Noticing the Change

Expecting

While analyzing data relevant to this stage, an image of what these informants felt formed in the researcher's mind. The door to maturing has just opened, and boys want both to cross the threshold (because of the positive aspects associated with maturing physically) and, at the same time, want to remain in the more comfortable, unembarrassing surroundings of childhood (e.g., no voice cracking or wet dreams). In other words, the informants wanted to both approach and avoid the change at the same time. The feeling of ambivalence occurred because informants were not always immediately sure that they were happy to see the change. Up until now, they had been confident that they knew what was going to happen; however, their initial experience of the changes was not always what they had anticipated. There was a growing sense of maturing, but as one informant stated, he was not sure that being matured was all that he had thought it would be:

> Well, actually, you're more pulled out [of childhood]. When you reach a certain age, people now expect you to behave like an adult, even though you might not be ready yet. You're pulled out of this little world that you were always in. Like people like me, I still like to experience that other world occasionally. Like all my brothers are still pretty much still in there, and they like doing things like going to the park at L. school, which is just a little ways from here. And that park, if you look at it and you have a good imagination can look exactly like a starship or the Enterprise or something. So they often ride down there and pretend it's just that. That the bars are the engines and stuff and that, and that's something that no one would really do who is my age, but my brothers all do stuff like that. That's very common. The time you stop doing stuff like that and instead of playing outside, playing sports more seriously, [your] school work [becomes] more serious. Everything just becomes a little more serious, and you start to go away from [playing]. It's almost a shame because you start to lose some of the fun.

Noticing the change elicited different reactions and these reactions depended on whether the informant noticed, or had not noticed, the change himself and whether others' reactions to the changes were positive or negative. The reactions described in Figure 1 represent the possible reactions to each individual change. While going through all of the changes, an informant might experience all or only some of the the reactions.

When informants noticed the change themselves and the response of others was positive (cell a), they felt happy. This is what informants experienced most often. They were happy because the expectation that they would change physically had been met and they were starting to look like others who had already changed. Just as important was the fact that that other people responded positively to the change. The reaction some of the informants felt when they first had to shave is an example of a change that fits in cell a. One informant stated that his mothers made a point of going

Noticing the change himself

		Yes	No
Reactions of others	Positive	Happy a	Pleasantly surprised b
	Negative	c Embarrassed	d Distressed

Figure 1. *Different Responses when Changes were Noticed*

to buy shaving cream and a razor for him, which made him feel quite "grown up" and happy.

Cell b describes the response of informants if they had not noticed the change themselves until someone else responded positively to the change. This often occurred when relatives or friends saw the informants for the first time after the growth spurt had occurred and said, "My! How you've grown!" or after their voices had changed and people commented on how mature they now sounded. One informant, who had not noticed that he was "bulking up", said,

> All my friends started, "Oh, Big J" and all of that, and it does rub off on you. I

> mean, you can't just totally ignore it, especially when it's compliments. It didn't turn me into a bully or anything, but it's nice being big.

If informants had noticed the change and the response of others was negative (cell c), the boys were embarrassed, but since they had had some time to experience the change themselves, they could deal with the negative response. For example, one informant was quite uncoordinated during his growth spurt and was laughed at several times when his knees knocked together as he ran; however, because he knew about his uncoordination before others really started to notice his "problem" he was not as embarrassed.

Informants felt distress (cell d) if they first noticed the change when others reacted negatively to that change. For example, one informant was quite upset when his mother advised him immediately to go to the doctor when she noticed serious acne on his back. He had not been aware of the acne, and because his mother's reaction had come "out of the blue," he was not at all prepared for his mother's strong and negative reaction.

All boys soon, if not immediately, felt relieved to see the change, even the informants who may have been initially embarrassed or distressed. The reason for feeling relieved was that the changes were signs that they were normal, that they were beginning to mature, and that they were finally "on their way." Informants gave many examples of feeling relieved once they noticed the change. One example is:

> I was at the JCC, Jewish Community Centre, swimming and I just noticed it [axilla hair] and I started showing my friend. I came and showed my mom and stuff. I was sort of excited, you know. I was growing up and going into puberty.

There was a difference in the intensity of relief between informants who considered themselves early maturers and those who thought they were late.

Certainly early maturing boys were relieved, but boys who considered themselves "late bloomers" were *especially* relieved:

> When I was nervous, all I wanted to see was one change. Cause then I knew the rest were going to come. So I just, as soon as the first change came, no reason to be nervous now. Everything was going to fall into place. It's going to be fine.
>
> I always felt real bad because I was always like one of the shortest in our class. Like there was one girl that's real short, and she's still short, and I look back at how I was before and I'm like, man, I was small! During [the growth spurt] I was happy because I was growing. I was real happy. I'm growing! Yes, great!

A difference also existed in the intensity of relief felt when the first change was noticed and when subsequent changes were noticed. Informants were most relieved with the first change because this was the first sign that they were actually maturing. They were also relieved with each subsequent change, but the intensity of relief gradually lessened as informants experienced more changes.

There was no discernable difference between boys who were and who were not the oldest boy in the family. (See Table 2 for the number of informants who were the oldest boy in the family.) The experience was such a personal one that whether an informant had an older brother who had already gone through the changes was of no consequence. As has been stated earlier, there was little, if any, communication between brothers regarding the pubertal changes and so having an older brother who could perhaps prepare a younger brother for the changes was not an important "variable" in how the changes were experienced. Apparently, because parents did not discuss the changes at all or discussed them very little with their sons, neither did the fact of having already experienced a son who had gone through the change make it easier for parents to talk to these informants. Once again, then, where it might seem probable that having an older brother might make a difference in how informants were approached by parents, this was not the case. The informants, whether they were the oldest boy or not, went through similar experiences.

Wondering and Imagining

In this stage, informants began wondering what would "work" to keep them from becoming embarrassed. They had experienced the change once or twice and were getting a sense of what it was like to "live" through the experience and were starting to think about what they could do to keep from becoming embarrassed. In this stage, informants also imagined and looked at older "guys" to see how the change might eventually be manifested in themselves. Once again, what the boys wondered and what they imaged were important in developing expectations of how they would eventually experience the changes.

Checking Out

Informants began comparing themselves with others more frequently in this stage in order to locate themselves on a maturational continuum. Obviously, some changes were more easily compared than others. For example, the growth of facial hair, voice changes, and the growth spurt could be easily seen by others, while development of pubic and axillary hair, spontaneous erections, and wet dreams were changes that were not as easily observed.

Feeling "Abnormal"

Even though relief was the major feeling during this stage, embarrassment occurred, not because informants felt different from others (for they wee beginning to look similar), but because they did not know how to respond to the change or how others would respond to them. However, unlike in the first stage when informants were embarrassment when people found they *had not* changed, in this stage, informants were embarrassed when people found out that they *had* changed. They felt "abnormal" because they were unaccustomed to the experience. It was completely unique, and they were not sure how to respond. Informants had had very little experience with the change and were trying to understand and evaluate the reactions of themselves and others. Even though informants may have noticed what happened to others in embarrassing situations, they still did not know personally what to expect. For example, one informant said he was not embarrassed about pubic hair until his younger brother told their father. He was not embarrassed about pubic hair *per se*, but he was embarrassed because others knew he was starting to grow pubic hair. Because this was such a new situation for him to be in, he did not know what to do. All the informants knew was that an embarrassing situation (e.g., erections, wet dreams) could happen at anytime. One informant recalled what he felt like the first time he noticed pubic hair:

> Well, I was just relieved. And kind of worried too that you didn't know really what to expect. Like you've see a person [whose already had the change], but you didn't know what they went through. So you weren't really sure yourself.

As was the case in the first stage, informants were embarrassed only in the presence of others. Several informants said their first wet dream would have been embarrassing if others had found out that they had had one. One informant said: "Nobody really knew about it [wet dream]. It wasn't embarrassing really for me. I guess if someone else knew about it it would be."

As mentioned earlier, informants did not want to mature too late, but it would have been just as embarrassing if they had started maturing too early. Feeling that they were normal was imperative for informants and being the first one in the group to experience a change meant that they were deviating from the norm. An adult male informant confirmed what informants said regarding maturing too early: "I remember some guys who were getting pubic hair earlier that the other guys in the shower room. Sometimes there'd be the odd comment about it."

During this stage, the intensity of worrying decreased at times, but it continued at the same level or increased at other times. Worrying about whether they would actually change decreased when informants realized that they were indeed beginning to look normal. As one informant said after experiencing a change, "I thought about it [the change] a lot less. Cause I knew it was started. I had nothing to worry about anymore." Worrying also decreased during this stage for a particular change if other changes had already started.

Because of the potential for embarrassment, informants used strategies to minimize the embarrassment. Avoiding was frequently used in this stage, but what informants needed to avoid changed during this stage. Instead of avoiding situations in which others would find out that informants had not changed, informants now avoided situations in which others would discover that changes had occurred. Informants did not let anyone or only very few people know about a change. For example, so that no one would find out that they had experienced their first wet dream, informants cleaned or changed their bed sheets. When asked if he knew whether his friends had had wet dreams one informant said, "No. I have no idea if they did or not. They might have, might not have." It was as though everybody was involved in a "conspiracy of silence" about discussing the experience:

> My cousin went through it. He was all excited. He ran up to me in school, he went," I had a wet dream." "Shh, you're not supposed to tell people that you know." And I told him when I had mine. We giggled a bit. It was fine, we

> laughed and talked about it. That was it. Never really discussed it again. Just something to giggle at a little bit.

Accepting was used as a strategy in this stage for the same reason that it had been used in the first stage: informants found embarrassment easier to handle if they just accepted that fact that changes were inevitable. For example, after his voice broke for the first time and others had laughed at him, one informant stated that realizing the voice changes was just part of "growing up" helped him feel less embarrassed.

Feeling "Normal"

If informants assessed that they were normal, they approached the change as if it was "no big deal" because making too much out of the change was embarrassing. For example, the initial shave for some informants was embarrassing if they thought their parents were "making too big a deal out of it." One set of parents wanted to video their son's first shave, but the informant thought his parents were being "too silly" and shaved for the first time when no one was in the house. Another informant also embarrassed about shaving for the first time said: "I looked around. Anyone in the house? No? OK. I ran to the room. Shaved. It felt good, like alright! There we go!" Both of these adolescents felt normal when they had to start shaving and wanted to give the appearance that the experience was nothing out of the ordinary when, in fact, it was a unique experience.

Noticing the Change was a relatively short stage and ended after several experiences with the change. As the change occurred more frequently, informants began *Dealing with the Change*.

Stage Three: Dealing with the Change

Expecting

While discussing their experience of this stage, informants began using words that implied an increase in activity, feelings, and emotions. For example, informants stated they began comparing more, felt more mature, and felt more embarrassed, and a considerable amount of energy was used in handling the changes.

By this stage, informants had experienced enough of the change that they expected and anticipated the feelings of embarrassment. One informant stated that if he had a bad case of acne "I would still go out, but I just wouldn't be as outgoing as I [used to be]" because he knew how embarrassed he became when he had pimples. Another informant discussing spontaneous erections said: "It still happens. It's just like, 'Oh, oh!' It happens in situations you're not ready for. Like you just can't handle it and become embarrassed."

Wondering and Imagining

In the stage *Waiting for the Change*, informants wondered what the changes would be like, and in the stage *Noticing the Change* they wondered what would work best in trying to minimize the amount of embarrassment. They used "trial and error" in determining what strategies would help them feel less embarrassed. Wondering was still a future oriented process because if they had tried a certain strategy they wondered if it would be effective in the future or if the strategy would have to be altered.

In this stage, informants began imagining what they would look like in later adolescence or young adulthood. Informants were becoming more adult-like, and they began imagining what they would sound like with a deep voice or what they would look like with more whiskers. One informant remembered comparing the few whiskers that were left in the sink after he had shaved to the "black sink" that resulted when his dad shaved and telling his friend that he imagined some day he would have that many whiskers. In another case, an adult informant remembered thinking about what he would look like when his genitals were fully developed.

Checking Out

Informants compared constantly in this stage because they were dealing with the changes frequently and were most curious or anxious about their physical change in relation to others. One informant said, "Before acne occurs if you notice it, then you notice it. But once you start getting it, then you're checking every couple of hours (chuckles) to see if anything new is happening."

One big reason for wanting to know how they compared with others is that informants were now attracted to girls and did not want to feel uncomfortable talking to them. To find out if they would feel comfortable, they had to, for example, check to see how bad their acne was. One informant said that he would refrain from approaching a certain girl until the acne cleared. One informant who considered himself to have a bad case of acne said:

> I was pretty self-conscious all the time and that would keep me from doing a lot of stuff [like] maybe not ask out certain girls, stuff like that. Feel insecure and never really aim for that much popularity. That's one thing. And maybe through my insecurity, I just kind of stuck to a few very close friends. Never really stuck to a lot of friends.

In this stage, informants compared themselves to others most often when they were dealing with their first change, and the intensity of comparing became less as subsequent changes were experienced. The reason for this decreased comparing is that informants were feeling more "normal" overall with each additional change and did not feel the need to check themselves with others as often:

> I guess once I got a little way through. Like once I had a little bit of armpit hair and little pubic hair, once my voice deepened a little, once I grew a little bit. Once I was part way through. Once I had changed a little bit then I just said, "OK. Now I'm generally the same as they are."

However, comparing increased periodically if informants assessed that they were different from others. This happened when acne "flared up" or when they noticed that someone had more body hair than they did. Informants would then once again begin comparing themselves frequently (and often fervently) with others.

One of the changes that was most dramatic and noticeable to others was the growth spurt. For all boys, measuring height was a "big deal" during the growth spurt and declined in excitement as the rate of growth declined. Other family members were also interested in comparing informants' progress. Most informants' parents had a growth chart on a wall, and periodically, the family gathered to see how much growth had occurred. One informant related what happened at measuring time:

> It was a pretty big deal for them. I've got 3 sisters and one brother, and they'd call everyone in to get measured, and we'd go from smallest to biggest all the way up to the top. I guess it was kind of a big deal if [I] grew an inch. It's like, "Oooo, he grew an inch" type thing....So it was big. They put a line in and write the date so you can check it and see how you compared at all the different times.

Feeling "Abnormal"

Informants worried frequently in this stage about feeling "abnormal" and becoming embarrassed. Whereas in the stage *Noticing the Change*, informants worried because they did not know how others would react to the change, in the stage *Dealing with the Change*, they knew how others would react and were worried about these reactions (e.g., laughter, kidding).

Figure 2 lists the changes depending on whether they were noticed by others and whether they caused embarrassment. Voice cracking and acne (cell a) were changes that could easily be seen by others and caused embarrassment. Cell b included wet dreams and spontaneous erections which could not easily be seen by others, but could cause embarrassment. Changes that fell into cell c were "bulking out", growth of facial hair, and the growth spurt. These changes, which were easily seen by others, did not cause embarrassment in this stage. In cell d, the growth of pubic hair and axillary hair was not as easily seen by others and did not cause

		Changes seen by others	
		Yes	No
Embarrassing situation	Yes	voice cracking acne a	wet dreams sponataneous erections b
	No	c "bulking out" facial hair growth spurt	d pubic hair axillary hair

Figure 2. *The Various Changes Depending on their Noticeablility to Others and whether they Cause Embarrassment*

embarrassment because informants wanted to see body hair.

Changes that were easily seen by others (e.g., acne, voice cracking) caused embarrassment most frequently, but informants were usually not as intensely embarrassed in situations involving these changes. The intensity of embarrassment, however, also depended on the situation. Informants could become quite embarrassed in certain situations with a change that usually was not too embarrassing:

> It's just when you're in a big crowd. Let's say you're singing in a choir and you're going for medals or whatever and go to provincials and it cracks right in the middle of a song. Then you know it's over. You're so embarrassed and you ruined it for everyone else.

Embarrassment would be most intense if others "found out" about a change that was usually hidden. For example, all informants thought that at least once the erection they were having (a change that was usually hidden) had been seen by others, yet no informant had ever actually been told that their erection had been seen. If an erection occurred in public, "you feel like you want to hide" because "you figure the whole world is watching you" and because "you're the centre of attention":

Classroom situations were very embarrassing because many people were present. One informant talked about his friend whose voice broke in class:

> It was really funny. His voice was changing, and it was pretty funny, and we'd bug him, and he'd sit there in class, and he'd be saying something [informant makes a noise like voice breaking] and we'd laugh at him and stuff. We'd bug him.

Sometimes informants were most embarrassed with a change in the presence of friends, while at other times, being with friends was less threatening. The "trick" was to read the mood of the group. For example, friends might embarrass someone by exaggerating the sound of his voice cracking if they were trying to impress someone else. If the group was in a more serious mood, a boy whose voice had cracked would not be subject to as much ridicule.

Embarrassment was also greater if expectations were not met. Informants stated that, in retrospect, they were less embarrassed if they experienced the change in the way they had expected. For example, several informants said that they knew acne was "part of growing up" and that it would probably cause embarrassment, but they were sometimes quite embarrassed when they had acne because it was worse than they had expected it would be.

Although as stated earlier, future events were usually wondered and not worried about, informants did worry about some future events once they had experienced them. Examples are: (a) getting a wet dream when sleeping at a friend's house, (b) having a spontaneous erection at any time without any warning, (c) having their voice crack without warning, and (d) dealing with the next case of bad acne.

As with embarrassment, the amount of worrying depended on the situation. For example, informants worried much more about their voice cracking when in the classroom than when with parents. An informant stated he was more worried about having a wet dream at a friend's house than at his own home because he would be unable to change the sheets. Another informant said that he was worried he would be embarrassed if his voice broke when he was with girls and decided to quit an activity that involved girls:

> I used to sing lots. I used to sing in the 4-6 choir. Then we went today to Studio 86 where we sing along with the songs, and the girls I was with they sang real great. It came up to my solo part and right in the middle–I used to be able to sing real high –now high notes came, and I just tried it and said, "Nope! No way! I'm going to skip that part."

Strategies were employed once again to cover the embarrassing moments caused by the change. One way to cover the embarrassment was to learn practical activities required to "deal" with changes. Mastering these types of strategies were especially important for changes that could easily be seen by others. For example, informants had to learn to shave, how to apply acne medication, and learn what foods should be avoided so that faces would not look "like a pizza." Practical activities had to also be learned for changes that could not easily be seen by others. For example, informants learned to clean or change their sheets quietly so others would not discover they had a wet dream. (Interestingly, both mothers interviewed said they knew when their sons had wet dreams because the evidence was so obvious.)

One new strategy used in this stage was "imagining" what they would look like in the future. Using imaging as a strategy and not as a way to develop expectations was similar in that both involved creating a mental image of what the informants would look like in the future. The difference was that sometimes informants needed to see the "light at the end of the tunnel" with changes that were particularly embarrassing. Imagining what they would look like in the future after the change had "settled down" helped them deal with embarrassment. For example, if informants had a severe case of acne, they would look at older family members and imagine themselves in the future without any acne. One informant said, "I kind of look forward to growing out of it [acne] because my dad grew out of it and his dad." Another informant, who was smaller than he would like to have been, said,

> I've always been pretty skinny cause my dad was skinny one time. But he's bulked out now. If you see some of his marriage pictures and then everyone asks my sister and me is, "Has your mom got remarried?" 'Cos he looks totally different. It does not look like him at all.

A common strategy to deal with embarrassment that informants continued to use in this stage was joking which focused attention on something or someone else. Informants would, in fact, "bug" an already embarrassed friend to shift attention even further away from themselves.

As in earlier stages, avoiding was also used. Informants avoided talking to anyone about the change during this stage–"It was just a non-topic"–because they were embarrassed. The mothers interviewed said they did not initiate discussions about the changes, were waiting for their sons to approach them with questions, and did not know if their husbands had talked to the sons. Informants really did want to know what was occurring, but they were too embarrassed to discuss the topic directly. As two informants said: "The only time we talked about that [physical changes] would be in a joking manner," and "I don't know if we ever sat down and talked about it, but probably through jokes and stuff like that we got messages across."

Often, informants were ambivalent about wanting others to know that changes were occurring. They wanted to tell others, but the fear of a potentially negative reaction was stronger than the desire for disclosure. One informant expressed his ambivalence this way:

> I don't know [why I am embarrassed]. Maybe it's the people. People realizing that you're going through it. And you don't know what they're gonna think about it. So you don't whether to say, "Yeah! Yeah!" or just kind of hide it and stuff like that.

Another very important strategy used by informants was accepting or, as several informants said, "going with the flow." Even though unwanted and embarrassing moments happened, informants knew that these changes and the accompanying embarrassment were a necessary part of maturation. Informants also realized they were not the only ones experiencing embarrassment and, consequently, were better able to accept the times when they found themselves in embarrassing situations. Accepting was not always easy, and informants had to remind themselves that the changes were really "nothing to worry about," especially if the change was causing more embarrassment that usual (e.g., a bad case of acne).

A further strategy that was used was pretending. This strategy was used often by informants if their voice cracked. One informant stated that after his voice cracked he would clear his throat and "repeat the message in a real deep voice...and try to pretend it never happened."

With practice and experience, many strategies were learned to deal with the changes. Examples of what informants did to avoid embarrassment were: (a) not going swimming so that their shoulders that were covered with acne were not seen, (b) placing their penis in such a way in the underwear that if an erection occurred the penis would angle upwards and not outwards, (c) clearing their throats before speaking so that their voice would not break, (d) avoiding looking at girls so that an erection would not occur, and (e) washing their face regularly and using medication to prevent acne.

Feeling "Normal"

If informants felt normal after comparing, they told themselves that they "fit in with the crowd" and did practical things to keep from looking "abnormal." For example, they would shave, apply anti-acne medication, or be careful not to eat greasy foods. As informants neared the end of this stage, the intensity of embarrassment decreased as informants' feeling of normalcy increased. Informants also began using more descriptors of what normal meant while describing experiences in this stage. Examples of these descriptors are: (a) "being in the comfortable average" "(b) "knowing that you're one of the flock," (c) "fitting in with the crowd," (d) "not standing out too much," and (e) "just not being scared and embarrassed about my body."

Dealing with the Change ended when informants were able to deal effectively with the changes and felt normal with the changes. Then the informants entered the next stage, *Feeling Comfortable with the Change*.

Stage Four: Feeling Comfortable with the Change

Expecting

Overall, as boys experienced more changes, worrying decreased, and they regained their confidence because they knew what to expect. For example, an informant said: "Like the first time I had a wet dream it's like, 'Oh, oh! I hope doesn't happen again.' Next time it's like, 'OK. That wasn't so bad as the first time.'"

Feeling Comfortable with the Change began as informants began feeling normal (i.e., looking like others) and began "getting used to the changes":

> Getting used to its means you're learning to live with your changes. Like you gotta kind of get along with them. You're going to have zits, but if you wash and everything, you'll limit them to a certain extent.
>
> When you hear your voice on a tape-recorder and it doesn't sound funny anymore. It used to, but now it doesn't. Getting used to your voice squeaking up like that. And you can control it, too, so it does it less.

Being comfortable with the changes meant different things for different informants: (a) "forgetting about the change," (b) "not being embarrassed when changing in front of others," (c) "not worrying," (d) the change "becoming second nature like walking," (e) "being less self-conscious," and (f) "looking like everyone else." Several informants said that they even felt comfortable enough to joke about the changes, not as a strategy to avoid the topic, but because they remembered that some genuinely funny moments had occurred.

Wondering and Imagining

Very little wondering about the pubertal changes occurred in this stage because enough changes had occurred and the informants knew what to expect. Informants still wondered, but they wondered about how deep their voice would get, the amount of facial hair they would eventually get, or when they would finish growing.

Imagining what they would look like did not continue in this stage because informants had already gone through the changes. Informants began imagining what they would look like when they were an adult. Until this time, informants compared with peers and with people who were just one or two years older. In this stage, informants compared more with adult men. Comparing with older males became more important because the informants were near the end of puberty and were becoming more familiar with their changed bodies. For example, facial hair had been growing for awhile, and comparisons would be made with men who had beards instead of only with friends who had "peach fuzz." Informants also compared their maturing voice with the fully matured voices of men instead of only comparing with the maturing voices of peers.

Checking Out

Comparing physical changes of puberty with others occurred only occasionally in this stage because all changes had already been experienced. For example, informants seldom measured their height anymore and looked in the mirror less frequently. Because the "checking out" in previous stages had indicated that they looked and sounded the same way as their peers, informants no longer had the need to compare themselves with others.

Feeling "Abnormal"

Informants were less often embarrassed in this stage because they felt normal. The reason for this decease in the amount of embarrassment was simply the fact that because of the natural maturational process the number of potentially embarrassing situations decreased. For example, once informants had as much axilla hair or pubic hair as others they felt normal and were no longer embarrassed when others saw them naked. As one informant noted: "After you compared and you've seen that you're a normal person and everything, then you realized that you don't have to be embarrassed anymore and stuff like that." Another informant said,

> Like in the gym locker room or going swimming or something I always changed in the change room. Never did it in the open, which now I can because I'm not, I'm generally the same now. I've matured physically. So now I'm not scared of being laughed at or anything.

Worrying also decreased in this stage because boys knew what to expect, knew how they would react to change, and knew how others would react to their changes. Even though some situations could be worrisome because the unexpected could always happen (e.g., wet dream at a friend's place, spontaneous erection), informants had used strategies frequently enough to become competent in using them. Individuals had more experience with the changes and became more confident now that they knew how to deal with them. When asked when he started feeling "normal" about having wet dreams, one informant said,

> I guess it was sort of normal, but sort of not after the first one. Then the second one, I guess, it gradually, gradually [felt normal]. There's 0.0 out of a hundred, and then I went to 50 with the first one. And then I guess I gradually went up more and more after the first few.

Having had experience with the changes was important to develop these strategies because only then could informants *really* knew what it was like to experience the changes or only then could they know what they would have to do to avoid detection. One informant described how his reactions to wet dreams changed:

> The first time it happened it was like running around trying to be as quiet as I could. I guess I was still loud, stomping or whatever. Trying to clean it up. Next time I was just, "I know what to do now. I can just clean it up by myself." Next time, "Oh this is gonna happen. I'm ready for it."

None of the informants thought that he could have felt comfortable with the changes without experiencing them. For example, only experience could teach informants how to shave or apply anti-acne medication. From experience, informants knew that if they cleared their throats before speaking they could keep their voice from breaking. They also knew what situations would cause a spontaneous erection and avoided them, or they learned to how to clean sheets after experiencing a wet dream.

Informants stated that they were better able to accept the changes in this stage because not only did fewer embarrassing situations arise, but also because informants had matured cognitively. Cognitive maturity was essential in accepting, for example, because informants said they now saw the broader picture and understood why the physical changes had to occur, even though they had been sometimes embarrassing. As one informant said,

> I see things as more of a broader picture. It used to be see one thing. It was just like that. Now I see something and something else. Like it's a bigger picture. Now you see things that were never there before.

Another informant said that only as he became older could he accept the fact that acne was inevitable:

> Everybody else had it at one time anyways. Sure I probably get bugged the most by my brother because he had it and we all bugged him when I was younger. I got it now, so he bugs me and everything. So I don't know. And everybody has it and you kind of get used to all the bugging and everybody sooner or later, even if somebody does bug you, they'll probably have it anyways.

After feeling comfortable with one change, informants found it easier to feel comfortable with subsequent changes. Of course, informants did not know *exactly* what would happen with each new change; however, as more changes occurred, informants used strategies more often that could be used in various situations and at least had an idea of how they might handle the embarrassment.

Feeling "Normal"

Informants continued to compare occasionally to see if they were normal. However, because they knew what to expect and had confidence in their ability to use strategies, they felt that they could truly "fit in" with the crowd.

Summary

Early adolescent boys progressed through four distinct stages as they experienced physical change: *Waiting for the Change, Noticing the Change, Dealing with the Change*, and *Feeling Comfortable with the Change*. While going through these changes, informants developed expectations by learning from others and by imagining and wondering what the changes would be like. After developing these expectations, they began comparing with peers. If informants thought they were "abnormal," they used strategies to avoid or to deal with embarrassment. The amount of embarrassment steadily increased as changes were first experienced and gradually decreased as the informants finished the process. The reasons for the decrease in embarrassment was that, first, the natural maturational process meant that informants were no longer physically different from others near the end of the process and fewer embarrassing situations arose. Second, strategies to deal with the moments of embarrassment had been practiced frequently, had become "second nature", and were easily utilized when necessary.

Chapter 5: DISCUSSION

Based on the findings from this research project, the following areas will be discussed: (a) the use of grounded theory and this research project, (b) the findings of this study compared to existing literature, and (c) implications for nursing practice. Finally, propositional statements and suggestions for further research will be given.

Grounded Theory

Grounded theorists ask questions about topics that have been under researched and interest the researcher (Morse & Johnson, 1991). This researcher was interested in the experience of early adolescent boys, and since very little information existed about *any* aspect of early adolescence from an emic perspective, grounded theory was an appropriate method to use for examining the male adolescent response to physical changes.

Central to obtaining adequate data while using grounded theory is that informants divulge personal information. Informants were often embarrassed while giving the researcher personal information about physical changes, and they may have been *too* embarrassed to fully disclose their feelings about pubertal changes. In fact, the Basic Psychological Process of this study is *Minimizing Embarrassment*. Even though the informants were beyond early adolescence, remembering embarrassing moments from that time still caused embarrassment during the interviews. Other researchers examining pubertal changes in early adolescents also found that subjects were embarrassed (Brooks-Gunn, 1987; McGrory, 1990; Petersen, Tobin-Richards, & Boxer, 1983).

Informants were given the choice of being interviewed by telephone to alleviate embarrassment, yet they all requested face-to-face interviews. Would informants have been less embarrassed and, therefore, less inhibited to disclose personal information if only telephone interviews had been conducted? One researcher (Wilson, 1988) interviewing adult men suggests that the anonymity of telephone interviews helped people disclose personal information regarding emotional topics . Other researchers (Tausig & Freeman, 1988) who interviewed women in an *in vitro* fertilization and embryo transfer programme also suggest that little, if any, information was lost using telephone interviews Reich and Earls (1990), using a structured psychiatric interview with adolescents, concluded that little difference existed in the responses between face-to-face and telephone interviews when embarrassing information is requested. Although by no means discrediting telephone interviews, the researchers suggested that this type of interview is not a panacea for ensuring that adequate and appropriate data are collected. They posit that telephone interviews do not necessarily ensure anonymity because, especially with adolescents who are living at home, privacy during the interview cannot be assured. Also, they suggest that important nonverbal cues and messages may be lost during telephone interviews, but they do not give examples of what data might be lost.

Another reason for embarrassment unrelated to the method of interview is that adolescents are often unwilling to disclose personal and embarrassing events to adults (Denholm & Chabassol, 1988). Even though the researcher was male, the fact that he was an adult may have deterred complete disclosure. A final reason adding to informants' embarrassment is the cultural taboo of male expressiveness. Our society says that the inexpressive male (the strong, silent type) is more masculine than the male who discloses feelings and emotions (Balswick & Peek, 1971). Interestingly, even though some people say our society has changed and people are more open to discussing issues of sexuality, what Balswick and Peek (1971) said 20 years ago is still probably very true today.

Open-ended questions and the use of silence as a motivator for reflection often used in grounded theory interviews were generally more effective with older informants. With some informants, an open-ended question resulted in a puzzled look and a request for a more specific question. When the researcher used silence as a motivator for further reflection, some informants only looked at the researcher in anticipation of the next question. Perhaps because not all adolescents had the cognitive maturity to think formally, as suggested by Dulit (1972) and Hamburg (1984), open-ended questions and silence were not motivators for informants to reflect about their experiences but were moments creating awkwardness and uncomfortableness for them.

Researchers examining middle to late adolescent self-disclosure conclude that there was little self-disclosure about the body both by adolescents in general (Mulcahy, 1973) and males in particular (Komarovsky, 1974). These studies did not examine why self-disclosure was so low regarding the body, but it may have been, as emerged in this study and that of Gaddis and Brooks-Gunn (1985), that boys are simply too embarrassed to talk about physical changes.

Discussion of Findings

Conditions Necessary for Embarrassment

Weinberg (1968) states that people were embarrassed when novel situations occurred, when they did not know what to do, and when they began to "flounder" for social guidelines. Informants "floundered" frequently when they were first experiencing physical changes during puberty. Even though they may have seen others in similar situations and had heard what to expect, informants had not yet personally experienced the changes and were not exactly sure what they should do. Other researchers also state that early adolescents were embarrassed and self-conscious (Buss, 1980; Horowitz, 1962), especially because they are experiencing physical changes (Denholm & Chabassol, 1988).

Informants experienced the greatest intensity of embarrassment when changes that could usually be kept hidden were exposed. One possible explanation for this is that the "social guidelines" needed to deal with these situations are underdeveloped and, therefore, informants were inexperienced in dealing with these changes and did not know how to conduct themselves. On the other hand, informants had much experience dealing with the changes that could easily be seen by others (e.g., acne, voice changing) and learned more easily society's guidelines as to how to deal with these changes.

Researchers have stated that four conditions must be present for embarrassment to occur. The findings from this study support these conditions. The first condition, and one that has been frequently acknowledged, is that others must be present (Buss, Iscoe, & Buss, 1979; Dan, 1977; Goffman, 1956; Heider, 1958; Martin, 1987; Modigliani, 1971; Sattler, 1966; Vallelonga, 1976), especially when the situation involves body parts (Denholm & Chabassol, 1987). Not only must others be present, but individuals must realize that they can be seen and judged by others. Sattler (1966) states that "the expression that a shy man is embarrassed by his own body is not technically correct; rather his embarrassment stems from the recognition of his body as it is for the observer" (p. 121). It is worth noting that the informants in this study were not embarrassed about the physical change *per se*, but rather, they were embarrassed about the reactions and judgements of others to the physical change.

As cognitive abilities mature, early adolescents begin realizing the existence of a "social self" (Wickland, 1975) and that they are being judged by others. With this growing realization comes an increase in self-consciousness. For example, young children are not able to take an objective position and realize that others might be evaluating them and, therefore, do not become self-consciousness. Developmental researchers have suggested a direct relationship between the amount of self-consciousness and increasing age (Elkind & Bowen, 1979; Simmons, Rosenberg, & Rosenberg, 1973) and have concluded that adolescence is the peak period of self-consciousness and social anxiety (Buss, 1980).

Although most embarrassment occurs when others are actually present, people can become embarrassed when others are "thematically" present (Vallelonga, 1976); that is, embarrassment can occur if the individual thinks others will find out, even if no one else is actually present when the *faux pas* is committed. The results of this study support this idea. Informants in this study were not only embarrassed when others where actually present, but they could also be embarrassed, for example, if they thought others would find out about them having had a wet dream.

Researchers have stated that one of the contingencies regarding how embarrassed people become is their relationship to the audience and expectation of future encounters with members of that audience (Brown & Garland, 1971; Modigliani, 1971). As stated frequently in the literature and verified in this study, peers become more important for early adolescents, and informants began spending much more time with peers. As more time is spent with peers, adolescents are judged more frequently by the same people who are becoming increasingly important to them. Writers disagree, however, on the effect that a close relationship has with the amount of embarrassment. Brown and Garland (1971) state that embarrassment is greater and more attempts are made at "saving face" with friends, while Modigliani (1971) states that less embarrassment is experienced when people are with friends. In this study, several informants said that the most embarrassing situations would be in the presence of friends, yet later they stated that close friends were "there for you whenever you need[ed] them." The difference as to whether these informants were more or less embarrassed with friends depended on the mood of the group. Perhaps the reason for the discrepancy in the studies of Brown and Garland (1971) and Modigliani (1971) is that the researchers did not include in their data collection tool a variable which would measure the different "moods" of the subjects' group of friends.

The second condition for embarrassment is that not only must people feel that they are being judged, but this judgement must be a negative one (Heider, 1958; Modigliani, 1971; Sattler, 1966; Williamson, 1987). Edelmann (1987) states that embarrassment "has to do with a failure to present a desired image to others whom we regard as evaluating our performance" (p. 39). Goffman (1956) states that people who were flustered (as can occur in embarrassment) are considered to be weak and inferior in our society. In this study, informants were embarrassed when they felt "abnormal," when others laughed at them, and when they did not know how to respond to the embarrassing situation.

The third condition for embarrassment is that negative psychological feelings must be aroused. One such feeling is helplessness (Williamson, 1987). Several informants stated that they felt helpless while experiencing the physical changes and had to "go with the flow", even though they knew they would be embarrassed. Another feeling is self-consciousness (Edelmann, 1987; Heider, 1958; Sattler, 1966; Weinberg, 1968). Most informants stated that they became more conscious of their body and more aware of the differences in their body compared with friends during early adolescence. Conclusions from this study would support Simmons, Rosenberg, and Rosenberg (1973) and Protinsky and Farrier (1980), who, although they disagreed on their final conclusions, state that self-consciousness is a significant feeling in early adolescence. A last negative feeling discussed in the literature is lowered self-esteem (Modigliani, 1971). Late maturers or those who were experiencing a particularly bad case of acne, for example, said they became unusually shy because they did not feel as good about themselves.

The final condition necessary for embarrassment is that people have to realize that they have "broken" the social rules (Edelmann, 1987; Weinberg, 1987). One social rule for the informants was that they should fight acne. Even though all informants did take measures to reduce acne, they were still embarrassed when acne occurred because others might think that nothing had been done to prevent acne. Boys who did not use anti-acne medication or who let their "peach fuzz" grow too long were told, usually through joking, that neglecting their appearance was socially unacceptable.

Strategies to Deal with Embarrassment

Strategies used by informants in this study to either avoid or to deal with embarrassment were similar to strategies noted by other researchers examining embarrassment. For example, people often leave or avoid situations so they will not become embarrassed (Baldwin, 1955; Brown & Garland, 1971; Goffman, 1955, 1956; Heider, 1958). In this study, informants with little body hair avoided embarrassment by refusing to go swimming or by wearing long sleeved shirts to avoid detection. Just as Denholm and Chabassol (1988) found in their study, informants in this study were most embarrassed about changes that others could empirically evaluate (e.g., pubic hair) as opposed to more personal changes (e.g., wet dreams).

A second strategy cited in the literature was pretending not to have committed a social transgression (Edelmann & Hampson, 1981; Goffman, 1955). If people presented themselves as if nothing unusual had happened, then they were not as embarrassed. For example, in this study informants pretended that their voice had not broken or pretended that they understood a joke when they really did not.

A third strategy was the use of humour (Edelmann, 1987; Edelmann & Hampson, 1979; Fink & Walker, 1977) to avoid embarrassment and as a way to deal with actual embarrassment (Fink & Walker, 1977). Humour is used to reduce the impact of stress (Dixon, 1980; Martin & Lefcourt, 1983), and being embarrassed was certainly a stressful situation for the informants. Because they were experiencing stress, informants joked to deal with potential or actual embarrassment.

Taken by itself, laughing can cover up embarrassment. To accurately assess whether embarrassment has occurred, therefore, the responses of the body should be considered (e.g., fidgeting, blushing, aversion of eyes, affected speech) (Edelmann & Hampson, 1979; MacCurdy, 1930; Modigliani, 1971; Shields, Mallory, & Simon, 1990). That body movements "do not tell lies" is exemplified by the following example from an interview done in this study. When listening to a recorded interview, the researcher heard a loud squeaking noise caused by an informant squirming in his chair after the researcher had asked the adolescent about his first wet dream. During the interview the informant had successfully covered up his embarrassment, and it was only after listening to the tape, hearing the chair squeak, and thinking more about that interaction that the researcher realized the informant was quite embarrassed. Other informants blushed or chuckled nervously when asked embarrassing questions, and sex education teachers stated that boys would avert their eyes, laugh nervously, or fidget in their seats in sex education classes while embarrassing topics were being discussed.

A final strategy found in the literature that was also used by the informants in this study was that people direct attention away from themselves in order to deal with embarrassment (Fenigstein, 1979). Informants in this study reported that in an embarrassing situation they would start kidding another boy or increase the amount of kidding already aimed at someone else in order to deflect attention away from themselves.

Comparison of Psychological, Cognitive, and Social Literature

Literature exists on the effects of pubertal timing, and most researchers conclude that, for boys, early pubertal timing is more beneficial than being late in changing (Blyth et al., 1982; Duncan et al., 1985; Mussen & Jones, 1957; Nottleman et al., 1987; Simmons et al., 1979; Stolz & Stolz, 1944; Tobin-Richards, Boxer, & Petersen, 1983). Tobin-Richards, Boxer, and Petersen (1983) suggest that a linear relationship existed between pubertal development and the psychosocial meaning of the changes. That is, the earlier a boy matures, the more positive his body image and feelings of attraction will be. This researcher would agree that a linear relationship generally exists (i.e., as boys mature, they feel better about themselves), but this relationship does not exist if the boy is the *first* one in his group of friends to change. The reason is that he would then be different, and this difference would cause embarrassment. Clausen (1975) also found this to be true. Advantages do exist for being early rather than late, but not if the changes occur *too* early. Perhaps this is part of what Peskin (1967, 1973) meant when he said that the sociological advantages of maturing early did not necessarily mean that a psychological advantage also existed.

That cognitive changes occur in early adolescence also became evident during the study. Examples of informants creating an imaginary audience and a personal fable (Elkind, 1978, 1984) were found. Constant comparing began because informants thought they were being always evaluated by others. Most informants stated that at least one time they thought everybody was looking at them while they were experiencing an erection.

Writers on cognition have concluded that early adolescents' ability to reason increases and allows them to generate different hypotheses and approach issues from a different perspective (Hill, 1980; Keating, 1980). This was also found in this study because informants became comfortable with the changes only once they became more cognitively mature. Informants said that, in retrospect, when the changes first started they were unable to see the "broader picture." As they matured, however, they began seeing the changes from a different perspective and could take a more objective view which helped them in dealing with the embarrassment.

Findings from this study verify that adolescents are in a state of social locomotion (Muus, 1988) and that ambiguous feelings develop because individuals are vacillating between feeling like a child and feeling like an adult (Lewin, 1939, 1960). Sometimes informants wanted people to treat them as a mature person, while at other times, they wanted to "fool around" and act "like a kid." Regarding a change in role expectations, informants who experienced an early growth spurt or who were physically bigger said they noticed that expectations were sometimes different for them than for smaller peers.

The conclusions from this study would support researchers who state that puberty is largely a socially defined phenomenon (Bernard, 1957; Dornbush, 1989;

Dornbush et al., 1981; Petersen, 1985; Petersen & Crockett, 1985; Smith et al., 1985). Peers became more important in early adolescence, and whether the experience of pubertal changes was positive or negative was largely determined by how informants evaluated themselves in comparison to people around them. In other words, the informants' social context and what they saw in their friends was more important to them with respect to embarrassment than what they learned about the physical changes.

Comparison of Boys and Girls Reaction to Physical Changes

Similarities and differences exist between how the informants in this study responded to pubertal changes and how girls responded to pubertal changes as reported by other researchers. One limitation in this discussion is that almost all of the literature on how girls respond to pubertal changes focuses on menarche.

A major difference between boys and girls is that girls received much more informal information about changes, especially about menarche. The amount of information girls received is largely due to the feminine hygiene products manufacturers who were influential in shaping a girl's expectations about menarche (Havens & Swenson, 1986, 1988; Lapin, 1982; Whisnant, Brett, & Zegans, 1975; Whisnant & Zegans, 1975; Williams, 1983). Advertisements focused on how dirty and uncomfortable girls feel during menstruation if they do not use a certain product. Not only were expectations about menstruation developed through advertising, but cultural taboos exist that were instrumental in defining expectations of menstruation (Benedek, Pozanski, & Mason, 1979; Brooks-Gunn, 1987; Brooks-Gunn & Ruble, 1982; McKeever, 1984; Snow & Johnson, 1977; Young & Bacdayan, 1965). Many premenstrual girls were, therefore, scared and expected menarche to be uncomfortable, to cause emotional lability, to be embarrassing, and to disrupt normal activity and social interaction (Clark & Ruble, 1978; Morse & Doan, 1987). Informants in this study did not have comparable influences from advertising or cultural taboos that affected their expectations of the changes during puberty.

Most girls, depending on the closeness of the friend and perceived reciprocity, talked seriously to their friends about menarche (Brooks-Gunn & Ruble, 1982; Brooks-Gunn, Warren, Samelson, & Fox, 1986). Informants in this study, however, rarely, if ever, talked about their experiences and if they did, it was discussed only in a joking manner. Shore (1984) reports that her subjects used peers for identification and sharing of experiences, but she does not state whether the boys *seriously* shared experiences with anyone or just in a joking or superficial manner.

A clear difference exists between the source of information for girls and boys. Informants in this study, and the boys' in Shore's (1984) study, received most of their information from school. Like the subjects in the Gaddis and Brooks-Gunn (1985) study, informants received very little information from parents. Fathers especially did not give information in both Shore's (1984) study and in this study, contrary to the fact that fathers think they gave their children adequate information about issues of sexuality (Kilgour, 1991). Unlike boys, however, girls received most of their direct information from mothers (Fox, 1980; Golub & Catalano, 1983; Larsen, 1961; Logan, 1980; Shore, 1984). Another difference between boys and girls is that older female siblings were sources of information for pubescent girls (Brooks-Gunn, 1984); whereas, informants in this study and subjects in the Gaddis and Brooks-Gunn (1985) study did not ask older male siblings for information and the information that they did receive from was acquired only indirectly. As McKeever (1984) also found in her study, boys in this study were reticent to talk to their parents about their physical changes.

Similarities exist between the feelings and emotions experienced by the informants in this study and what girls are reported to have experienced. Girls experienced embarrassment (Havens & Swenson, 1986; Williams, 1983), increased self-consciousness (Koff, Rierdan, & Jacobsen, 1981), surprise (Gaddis & Brooks-Gunn, 1985; Janes & Morse, 1990; Ruble & Brooks-Gunn, 1982; Swenson & Havens, 1987), and anxiety (Brooks-Gunn & Ruble, 1980; Rierdan & Koff, 1980; Rosenbaum, 1979). Rosenbaum (1979) found that girls worried for the same reason in her study that boys worried about in this study:

> There was a common theme of worrying more about potential change, about development yet to come, than about the road already travelled. Once the indicators had been passed these girls easily integrated the change. It was looking at the uncharted road ahead that held anxiety. (p. 244)

This quote indicates that as with the informants in this study, girls worried most about the reactions to the change as opposed to the change itself. Then, after some experience with the change, anxiety decreased. Brooks-Gunn and Ruble (1980) and Rierdan and Koff (1980) also conclude that there is a decrease in anxiety after several menstrual periods have been experienced.

Girls in other studies, like the informants in this study, experienced ambivalence (Janes & Morse, 1990; Petersen, 1983; Whisnant & Zegans, 1975; Woods, Dery, & Most, 1982). The following quote exemplifies the ambivalence girls felt:

> Menarche is experienced positively because it is associated with maturity and constitutes "proof" that a girl is really a woman; on the other hand, significant distress accompanies menarche as girls become anxious, embarrassed and self-conscious. (Rierdan, Koff, & Flaherty, 1983, p. 480)

In this study, this ambivalence was particularly evident in the *Noticing the Change* stage. This researcher discussed the image of the adolescents beginning to change who, at the same time, did and did not want to enter "manhood".

Another reaction to the change that is common for both boys and girls is that they begin to compare themselves more frequently. Researchers have stated that increased comparing is a common phenomenon during adolescents (Boxer, Tobin-Richards, & Petersen, 1983; Erikson, 1963; Mehr, 1981). This researcher also found that males began comparing frequently (even "all the time") once changes started, and other researchers who have examined early adolescent girls also state that comparing with others begins in early adolescence (Benedek, Poznanski, & Mason, 1979; Diamond & Diamond, 1986; Rosenbaum, 1979). Informants in this study compared because, as Ruble (1983) states, adolescents are continually determining how they are supposed to behave in order to "fit in" and then assessing if they are meeting those expectations.

Both informants in this study and girls in other studies used similar strategies to avoid or to deal with embarrassment. Girls avoided talking about menarche (Koff, Rierdan, & Jacobsen, 1981; Petersen, 1983; Whisnant & Zegans, 1975) and hid the fact that they were developing breasts by wearing loose fitting garments or wearing padded bras if they were not developing (Benedik, Poznanski, & Mason, 1979). Informants in this study also avoided talking about the changes, and some of them wore clothing to hide parts of their body that might cause them embarrassment.

Another clear similarity between early adolescent males and females is that both want to be in the middle of the developmental continuum. Adolescents who mature at a different rate from friends are embarrassed (Williamson, 1987). Clearly, this was the case with informants in this study and the subjects in the studies by Simmons et al. (1979), Blyth et al. (1981), Tobin-Richards et al. (1983), Duncan et al. (1985), and Nottleman et al. (1987). Researchers examining girls' response to menarche (Brooks-Gunn & Ruble, 1982; Dashoff, 1986; Golub, 1983; Grief & Ulman, 1982; McKeever, 1984; Petersen, 1983; Rierdan, Koff, & Flaherty, 1983) and to breast development (Benedik, Pozanski, & Mason, 1979; Rosenbaum, 1979) also conclude that girls are embarrassed if they are not at the same maturational level as their friends.

Researchers differ on the effects that pubertal timing has in girls. Some state that girls prefer to be late rather than early regarding some changes (Tobin-Richards, Boxer, & Petersen, 1983; Petersen, 1983), while others state that late development is traumatic for girls, especially since the changes are associated with sexuality (Shangold & Mirkin, 1985). Faust (1977) found that advanced physical development was not preferred in girls who were in the sixth grade before many girls had begun breast development, but it was an asset in subsequent grades. In other words, girls did not want to be the first one among their friends to change, a finding that is also true for the informants in this study. On the other hand, other researchers state that girls feel positive about early breast development (Brooks-Gunn & Warren, 1988; Petersen, Tobin-Richards, & Boxer, 1983). Early growth spurts benefit a girl in areas of adjustment, peer relationships, and body image, but pubic hair had no effect on adjustment (Brooks-Gunn & Warren, 1988). Others (Brack et al., 1988) conclude that a girl's self-esteem is not affected by pubertal maturation. One explanation for the unclear conclusions regarding the effect of pubertal timing may be that the researchers' data collecting instruments were not always sensitive enough to differentiate between *early* development and *earliest* development. As was found in this study, informants wanted to be normal (i.e., in the middle of the maturational continuum), were embarrassed if they were late, but were also embarrassed if they were too early. Whether the researchers examining girls' responses made it clear to the subjects exactly what "early" means was not made clear in the reports. Therefore, one girl might have thought being the very first one to change meant "early," while another might have thought being on the early side of normal as being "early." This distinction was quite important to the informants in this study and may be important to girls as well.

Informants' definition of what constitutes normalcy was consistent with research on girls' experience of pubertal changes. People use common socially defined and physical markers to determine if they are "on time" regarding expected changes, and being "off time" is a compelling reason for self-assessment (Neugarten, 1979), including the importance of social definitions regarding puberty (Bernard, 1957; Dornbush et. al., 1981; Petersen, 1985). The definition of normalcy arises out of the adolescent desire to conform to others' expectations. Dwyer and Mayer (1968) state that

> the desire to conform grows in the early teens. Peer acceptance becomes the motive for a great deal of behaviour. Being different in appearance from one's peers often seems tantamount to being inferior. (p. 356)

Informants in this study and girls in other studies had developed expectations about physical life markers (i.e., pubertal changes), and if these markers did not materialize as expected, negative self assessments were made. Informants being treated like adults (e.g., more responsibilities) simply because they were physically maturing was also an example of others using social markers (e.g., greater height) as a basis for their assumptions about the roles of an early adolescent.

Many researchers state that menarche is a pivotal event in a girl's life because body image changes occur and a new sexual identity develops (Brooks-Gunn & Ruble, 1983; Golub, 1983; Hart & Sarnoff, 1971; Kestenberg, 1965; Koff, Rierdan, & Silverstone, 1978; Ruble & Brooks-Gunn, 1982). Some writers note that boys do not have a comparable event to menarche (Lambert, Rothschild, Atland, & Green, 1972; Seiden, 1976), yet several informants in this study felt that spermarche was an important event because they realized that now they could father children. This realization made quite an impact on how these informants viewed themselves.

Implications for Nursing

The greatest implication of this study for nurses is that whenever they come into professional contact with early adolescent boys all attempts must be made to minimize the boys' embarrassment. Occasions when nurses most frequently encounter boys are when teaching sexuality education (in clinics or schools) or in clinical settings such as adolescent centres, doctors' offices, or hospitals .

Sexuality Education

Sex education instruction should include discussions regarding the subjective experience of pubertal changes. Because the expectations that are developed are critical to whether the changes will be a positive or negative experience, boys should be made aware of the feelings that they might have in response to the changes. These feelings should be discussed well before pubertal changes start. What McKeever (1984) states regarding the girls' subjective experience of learning about menstruation is also true for boys learning about physical changes:

> Although factual information about the anatomical and physiological aspects

> of menstruating is important, pubertal girls are much more concerned about "being normal" and "starting on time."(p. 39)

Early adolescent boys should be helped to develop realistic and reasonable expectations. Nurses, therefore, should acknowledge that fear, ambivalence, and embarrassment are common and normal feelings to have while experiencing the changes. Just as girls should not be given unrealistic expectations about menstruation (Rierdan, Koff, & Flaherty, 1983) boys should not be told, as Madaras does (1988), that wet dreams should not cause embarrassment. As informants stated in this study, wet dreams can be very embarrassing, especially if they occur at someone else's house. Perhaps Madaras made this (erroneous) statement because she has never experienced a wet dream herself.

Because early adolescent boys' assessment of whether they are normal is crucial in determining how they feel about themselves, information must be given about the considerable variability of pubertal onset, and judgmental words such as "on time" should not be used. This, of course, will not ensure that only positive feelings will develop since early adolescents are still somewhat cognitively immature and may not be able to take an objective view of their situation. However, it may help them to accept the fact that just because they are *late* in maturing does not mean that they will *never* mature. A second reason that giving boys information about the variability of the onset of changes will not guarantee positive feelings is that emotional, social, and psychological processes also influence the response to changes which can "override" what a boys knows to be true.

The "advantages" and "disadvantages" of changing late or early should be discussed so that boys will gain an understanding of what others might be experiencing. Discussing the pros and cons of different rates of maturity may also help boys realize that "the grass is not always greener on the other side of the fence."

Educators should develop a comfortable environment and give ample opportunity to discuss issues. In school, this may include separating males and females when discussing some of the changes since boys might be more embarrassed with girls in the room when discussing, for example, erections or wet dreams. Because discussing pubertal development is embarrassing, (even though adolescents really want accurate information), health educators should also employ strategies that allow for anonymous questions to be asked (e.g., an anonymous question box). This gives adolescents the opportunity to ask embarrassing questions more safely.

Informants were embarrassed because they did not know how to do some of the mechanical things that become a necessary part of growing up (e.g., shaving). Demonstrations regarding these activities should be given so that embarrassment might be minimized the first time boys have to do them.

Clinical Practice

Of greatest importance when giving care to an adolescent boy in clinical practice is that his privacy should be respected, especially when giving care to a body part that is changing or when a body part that is usually hidden needs to be exposed (e.g., genitalia). Judgements or any unnecessary comments about the body part should not be made even if the nurse thinks a compliment has been given. Boys may be self-conscious and embarrassed for reasons that are not obvious.

The findings from this study also indicate that many strategies are used by boys to minimize their embarrassment. These strategies were, in fact, *necessary* so that early adolescent boys could feel more comfortable with themselves. Strategies were "defense mechanisms" that informants used so that the embarrassment would not totally "crush" them. Nurses must realize the important role strategies play and should not thwart a boy's use of strategies in embarrassing situations.

Propositional Statements

One of the purposes of this research study was to develop propositional statements about boys' experience of pubertal changes. Based on analysis of data the following statements were developed:

1. The later the physical changes of puberty begins, the more embarrassed an early adolescent boy will be.

2. The later the changes begin, the more self-conscious an early adolescent boy will be.

3. There is a difference in the amount of embarrassment a boy will experience depending on whether he is the *earliest* one to change or whether he is *early* in changing.

4. There is a positive relationship between the amount of embarrassment and the amount of self-monitoring.

5. The more cognitively mature an early adolescent boy is, the sooner he will feel comfortable with the changes.

6. The sooner an early adolescent boys feels normal, the sooner he will be comfortable with the changes.

7. There is an inverse relationship between degree of satisfaction an early adolescent boy has with his changing body and the amount of embarrassment he experiences.

Suggestions for Further Research

Findings from research projects may help answer questions, but another function of research is to raise more questions. The findings that resulted from this study regarding the embarrassment early adolescent boys experience could lead to the following research questions:

1. What is the response of family members to early adolescent boys' physical changes?
2. What is the relationship between the amount of embarrassment experienced and a person's self-concept?
3. What is the amount of embarrassment experienced by early adolescent boys when they are in front of different audiences (e.g., family, friends, strangers)?
4. What is the least embarrassing method of teaching early adolescent boys about physical changes?

Summary and Conclusions

The research question in this study was: What is the experience of physical maturational changes in male adolescents? While studies on the responses that girls have to physical changes have been done frequently, virtually no researchers have examined the early adolescent boy's experience of pubertal changes. Because few descriptive studies exist, a qualitative research design was appropriate to use in this study, and grounded theory was explained. A discussion of the findings followed in which the four stages of the process and the core variable, *Minimizing Embarrassment*, were described. Essentially, physical changes cause embarrassment, and informants used strategies to either avoid or to deal with the embarrassment. The first stage of the process was *Waiting for the Change*. Informants were in this stage before any changes occurred. The next stage, *Noticing the Change*, began when the first change was noted. *Dealing with the Change* was the third stage, and in this stage informants spent a great deal of energy dealing with the embarrassment caused by the changes. The final stage was *Feeling Comfortable with the Change*, which began when informants began to feel normal and were not embarrassed by the changes.

Informants entered these stages with expectations of what the changes would be like. They wondered and imagined how the changes would be manifest in themselves and then began "checking out" their changes with others. If informants assessed that they looked normal, they accepted the change. If informants thought they looked "abnormal," they used strategies to avoid embarrassment or to deal with embarrassment. Examples of strategies used by informants were avoiding, joking, and pretending.

An evaluation of the use of grounded theory and this project was given. The researcher noted that disclosure about personal experiences of pubertal changes was difficult to obtain from some informants because they were embarrassed talking about their physical changes and that males in our society are reticent to disclose their feelings. Findings of this study were then compared to findings of researchers who had examined the following: (a) the process of embarrassment; (b) the strategies used to deal with embarrassment; (c) early adolescent psychology, cognition, and socialization; and (d) the difference between boys and girls responses to pubertal changes. This study validated many findings from other research and added new insight in other areas. One example of a new "angle" on a topic is that when researchers discuss the benefits and problems of differences in pubertal timing they must realize that a difference exists for pubescent boys between changing early and being the earliest to change. Changing early is a positive experience, while being the earliest to change can be just as embarrassing as changing late. The final section of the thesis discussed implications for nurses involved with sexuality education and practice, followed by propositional statements and suggestions for further research.

In conclusion, by using the grounded theory method, this researcher validated findings of other researchers and discovered unique information about early adolescent boys' experience of pubertal changes. A four-stage model was developed to describe this response. This new information will add to the already existing body of knowledge about early adolescent boys' experience of puberty and help nurses to be more effective in giving appropriate nursing care to early adolescent boys.

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Appendix A
Informed Consent

Project Title: Experience of developmental changes in early adolescence from a male perspective: A grounded theory

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This study's purpose is to discover what boys think of the developmental changes they go through as early teenagers. Boys who have gone through these changes will be asked to talk about their experiences. The experiences will be compared, and an understanding of what boys go through will develop.

I understand the following:

1. I will be interviewed and be asked about my feelings of becoming a teenager.
2. The interviews will be tape-recorded, written out (transcribed), and then analyzed.
3. The interviews will be about an hour long, and two or three may be needed.
4. The researcher understands I may feel embarrassed when talking about these things. I can refuse to answer any question, and can drop out of the study at any time just by telling the researcher.
5. I will be asked to complete a questionnaire and can return it in the addressed and stamped envelope. The researcher will know if I have completed the questionnaire, and will keep this information confidential.

6. No one will be able to match my name to what I say, my name will not be used in reports about this study, and all information will be kept in a locked area.
7. My parents will not be allowed to sit in on the interviews, to listen to the tapes, read the transcripts, or look at the completed questionnaire.
8. If I tell the researcher anything that must be reported, the researcher will do so.
9. I will not gain anything directly from being in this study, but know the information may be helpful to others.
10. If I want a summary of the results, I will give my address at the end of this form.
11. What I say may be used in a different study, provided the study is approved by an ethical board.
12. The information I give may be used to teach others, and may be published. Quotes from the taped interviews may also be published.
13. Even though my parents agree to let me be in this study, I do not have to participate if I do not want to.
14. I was able to ask the researcher any questions before agreeing to be in the study, and these questions were answered. If I have more questions I can call the telephone numbers listed above.
15. I have a copy of this form.

I, ______________________________, (participant) agree to be interviewed as part of the project described above.

____

(participant)

I, ______________________________, (parent) hereby give my permission for ____________________ (my son) to be interviewed as part of the project described above.

____

(parent)

________________________ ________________

(researcher) (date)